DSR-200/200P
RMT-806/807

SERVICE MANUAL

US Model
Canadian Model
DSR-200
AEP Model
DSR-200P

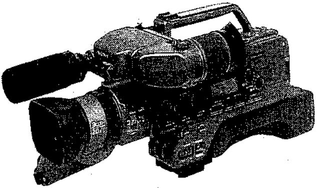


Photo : DSR-200

DVCAM™

L MECHANISM

NTSC : DSR-200
PAL : DSR-200P

SPECIFICATIONS

System

Video recording system
Two rotary heads, Helical scanning system
Audio recording system
Two rotary heads, PCM system
Video signal
DSR-200 : NTSC color, EIA standards
DSR-200P : PAL colour, CCIR standards
Usable cassette
DVCAM logo printed cassette
Recording / Playback time (using PDV-184ME cassette)
184 min.
Fastforward/rewind time
Approx. 7 min.
Image device
3 CCD (Charge Coupled Device 1/3")
Viewfinder
Electronic viewfinder: Monochrome
Lens
10x (optical), 20x (digital)
f = 1/4 to 2 5/16 inches (5.9 to 59 mm)
1 5/8 to 16 9/16 inches (42 to 420 mm) when converted into a 35-mm still camera
F = 1.6 to 2.1
Filter diameter 2 1/8 inches (52 mm)
Color temperature
Auto/Indoors (3200K)/Outdoors (5800K)
Minimum illumination
4 lux (F 1.6)
Illumination range
4 lux to 100,000 lux
Recommended illumination
More than 100 lux
Shutter speed control
1/4 to 1/10000
Gain control
–3 to 18 dB
Aperture control
F 1.6 to F 11, CLOSE

Input and output connectors

S video output
4-pin mini DIN
Luminance signal: 1 Vp-p, 75ohm, unbalanced
DSR-200 :
Chrominance signal: 0.286 Vp-p, 75ohm, unbalanced
DSR-200P :
Chrominance signal: 0.3Vp-p, 75ohm, unbalanced
Video output
Phono jack, 1 Vp-p, 75ohm, unbalanced
BNC connector
Audio output
Phono jacks (2: stereo L and R)
327 mV, (at load impedance 47 kilohm) impedance less than 2.2kilohm
RFU DC OUT
Special minijack, DC 5V
Headphone jack
Stereo minijack (ø 3.5 mm)
LANC control jack
Stereo mini-minijack (ø 2.5 mm)
MIC jack
Stereo minijack, 0.388 mV low impedance with 2.5 to 3.0 V DC, output impedance 6.8 kilohm (ø 3.5 mm)
Audio input
XLR jacks (2: CH-1 and CH-2)
Speaker
Dynamic speaker
DC input
4-pin connector
DSR-200: DV IN/OUT
DSR-200P: DV OUT
4-pin special connector
Viewfinder connector
8-pin connector

General

Power requirements
7.2 V (battery pack)
8.4 V (AC power adaptor)
Average power consumption
11.6 W during camera recording
Operating temperature
32°F to 104°F (0°C to 40°C)
Storage temperature
–4°F to +140°F (–20°C to +60°C)
Dimensions (Approx.)
8 5/8 x 9 3/8 x 18 3/4 inches (216 x 237 x 474 mm) (w/h/d)
(When the viewfinder is lying flat)
Mass (Approx.)
7 lb 14 oz (3.6 kg) excluding the battery pack, lithium battery, cassette, lens cover and shoulder strap
10 lb 5 oz (4.7 kg) including the battery adaptor NPA-10000, battery pack NP-F930 (x3), lithium battery CR2025, cassette PDV-184ME, lens cover
Microphone
Stereo type
Supplied accessories
See page 2.

Design and specifications are subject to change without notice.

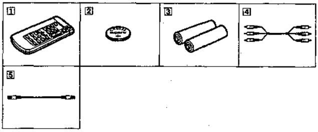
DIGITAL VIDEO CAMERA RECORDER

MICROFILM

SONY®

Checking supplied accessories

Check that the following accessories are supplied with your digital camcorder.



1 **Wireless Remote Commander (1)**
2 **CR2025 Lithium Battery (1)**
The lithium battery is already installed in your digital camcorder.
3 **size AA (R6) battery for Remote Commander (2)**
4 **A/V connecting cable (1)**
5 **S video cable (1)**

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUB-LISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!
LES COMPOSANTS IDENTIFÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈSES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPÉMENTS PUBLIÉS PAR SONY.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer.

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Look for unauthorized replacement parts, par-ticularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
4. Look for parts which, through functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replace-ment.
5. Check the B+ voltage to see it is at the values specified.
6. Flexible Circuit Board Repairing
   - Keep the temperature of the soldering iron around 270°C during repairing.
   - Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
   - Be careful not to apply force on the conductor when soldering or unsoldering.

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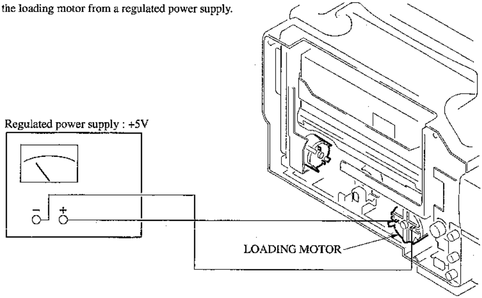
* The color reproduction frame is shown after the page of ARRANGEMENT DIAGRAM FOR ADJUSTMENT PARTS.

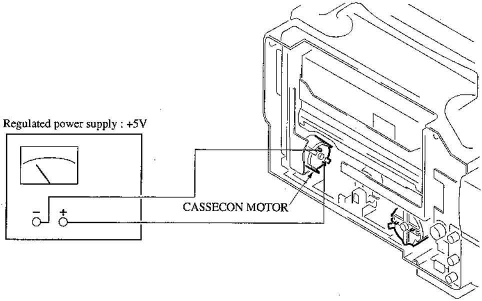
SERVICE NOTE

- Procedure to remove a cassette when a cassette tape cannot be ejected.
  (Perform sections 2-6, 2-7, 2-9, 2-10 and 2-17 of section 2. DISASSEMBLY, and remove the Cabinet (L).

① Apply 5Vdc to the loading motor from a regulated power supply.


Regulated power supply : +5V
–
+
LOADING MOTOR

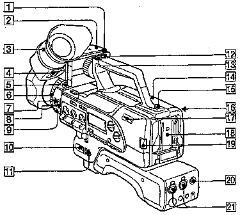
② Apply 5Vdc to the cassette control motor from a regulated power supply.


Regulated power supply : +5V
–
+
CASSECON MOTOR

SECTION 1
GENERAL

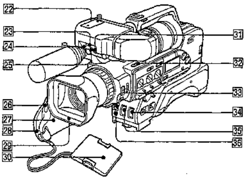
This section is extracted
from instruction manual.
(DSR-200 model)

Identifying the parts



1 **Stopper** (p. 20)
Lift up and hold to remove the viewfinder.
2 **Viewfinder** (p. 20, 27, 87)
3 **Viewfinder adjustment ring** (p. 27)
4 **PUSH button** (p. 87)
Press and hold to raise the eyecup.
5 **Viewfinder release lever** (p. 32)
Push forward to move the position of the viewfinder front and back.
6 **Focus ring** (p. 51)
7 **FOCUS switch** (p. 51)
Set to select auto or manual focus.
8 **ND FILTER switch** (p. 62)
9 **PUSH AUTO button** (p. 51)
Push to use automatic focus momentarily.
10 **POWER switch** (p. 36)

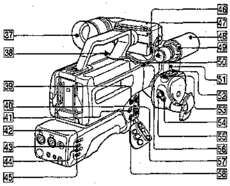
11 **CAMCORDER/VTR switch** (p. 36)
12 **Accessory shoe** (p. 45)
13 **Hook for shoulder strap** (p. 16)
14 **Cassette compartment and cassette compartment cover** (p. 24)
15 **Hook for shoulder strap** (p. 16)
16 **EJECT ≜ button** (p. 25)
Press to eject the cassette.
17 **Speaker** (p. 26)
18 **Battery mounting surface** (p. 23)
19 **BATT lever** (p. 23)
Press and hold to release the batteries.
20 **VIDEO OUT jack (for BNC type plug)** (p. 35)
21 **AUDIO IN jacks** (p. 64)
Input external audio/microphone signals.



22 **Microphone holder attaching point**
23 **TALLY lamp** (p. 27)
Lights while recording and when the battery becomes low.
24 **CONTR knob** (p. 27)
Turn to adjust the viewfinder's contrast.
25 **TALLY switch** (p. 27)
Set to select TALLY lamp ON/OFF.
26 **Front Remote Commander sensor** (p. 14)
27 **Grip**
28 **Grip strap**
29 **Lens hood**
You can attach a wide teleconversion lens (not supplied) by removing the lens hood.

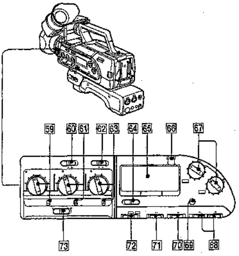
30 **Lens hood cap** (p. 26)
31 **BRIGHT knob** (p. 27)
Turn to adjust the viewfinder's brightness.
32 **EDITSEARCH button** (p. 33)
33 **Front START/STOP button** (p. 31)
34 **FADER/OVERLAP button** (p. 43, 44)
35 **WHITE BALANCE ⏏ (one-push white balance) button** (p. 59)
36 **CP CHECK button** (p. 69)
Press to check the custom preset settings.

Identifying the parts



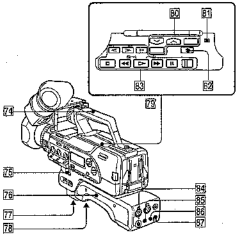
37 **Eyecup**
38 **VIEW FINDER jack** (p. 20)
39 **S VIDEO OUT jack** (p. 34)
40 **RFU DC OUT jack** (p. 35)
41 **DV IN/OUT jack** (p. 73)
Connect DV products using the connecting DV cable.
42 **CH-1 LINE/MIC switch** (p. 64)
Set to change the audio source using a CH-1 input.
43 **CH-1 ATT switch** (p. 66)
Set ON to attenuate the CH-1 input microphone level.
44 **CH-2 LINE/MIC switch** (p. 64)
Set to change the audio source using CH-2 input.
45 **CH-2 ATT switch** (p. 66)
Set ON to attenuate the CH-2 input microphone level.
46 **MIC (PLUG IN POWER) jack** (p. 28)
Connect an external mini jack type microphone (not supplied). This jack also accepts a "plug-in-power" microphone. When using this jack, set LINE/MIC to MIC FRONT.

47 **DIRECTION SELECT switch** (p. 28)
Set to change the directionality of the built-in microphone.
48 **Built-in microphone** (p. 64)
49 **Microphone wind screen screw**
Loosen to remove wind screen.
50 **MIC switch** (p. 66)
Set ATT to attenuate the built-in microphone and external microphone connected to MIC (PLUG IN POWER) level.
51 **Lens hood screw**
52 **Power zoom button** (p. 30)
53 **PHOTO button** (p. 45)
Press to shoot in photo mode.
54 **STANDBY (LOCK/STANDBY/PHOTO STANDBY) switch** (p. 26)
55 **START/STOP button** (p. 26)
56 **BUILT-IN MIC switch** (p. 66)
If recording when there is a loud wind using the built-in microphone, set to WIND.
57 **AUDIO OUT/VIDEO OUT jacks** (p. 34)
58 **DC IN jack** (p. 38)



59 **SHUTTER SPEED dial and AUTO/MANUAL switch** (p. 54)
60 **DIGITAL MODE switch** (p. 30, 44)
Set to select the OVERLAP or D ZOOM mode.
61 **GAIN dial and AGC/MANUAL switch** (p. 57)
62 **STEADY SHOT switch** (p. 67)
63 **WHT BAL (white balance) dial and ATW/MANUAL switch** (p. 59, 60)
64 **DISPLAY LIGHT switch (for display window)**
Use to set the display back light switch ON/OFF.

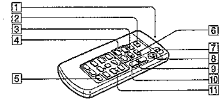
65 **Display window** (p. 16)
66 **PEAK indicators (L and R)** (p. 65)
67 **REC LEVEL dials** (p. 65)
68 **REC LEVEL switches** (p. 65)
69 **TC RESET button**
Set time code to 0:00:00:00 when you want to reset the time code while shooting.
70 **AUDIO MODE switch** (p. 29)
Set to select Fs 32k (12 bit) or Fs 48k (16 bit) audio recording mode.
71 **SPEAKER switch** (p. 28)
72 **AUDIO MONITOR switch** (p. 65)
73 **AUTO LOCK switch** (p. 26)
Set to turn automatic settings for aperture, shutter speed, gain, and white balance ON/OFF.



74 **Carrying handle**
75 **IRIS dial and AUTO/MANUAL switch** (p. 53)
76 **Shoulder pad**
77 **Tripod receptacle** (p. 17)
78 **Lithium battery cover** (p. 78)
79 **Cover for menu and video controls**
80 **Menu buttons** (p. 40)
81 **TC switch** (p. 28)
Set to select the drop frame or non-drop frame for time code recording.
82 **AUDIO DUB ⇕ button** (p. 76)
83 **Video controls** (p. 36)
□ STOP button (stop)
◀◀ REW button (rewind)
▷ PLAY button (playback)
▶▶ FF button (fast forward)
II PAUSE button (pause)
● REC switch (recording)
I▶ SLOW button (slow speed playback)
◀II/II▶ FRAME button (direction select/frame-by-frame)
84 **MONITOR LEVEL dial** (p. 28)
Turn to adjust the volume level of the headphones and built-in speaker.
85 **∩ (headphones) jack** (p. 28)
86 **Ⓛ LANC jack**
Ⓛ stands for Local Application Control Bus System. The Ⓛ control jack is used for controlling the tape transport of video equipment and peripherals connected to it. This jack has the same function as the jack indicated as CONTROL L or REMOTE.
87 **Tally lamp/Rear Remote Commander sensor** (p. 27, 13)

Remote Commander

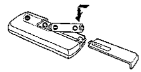
The buttons that have the same name on the Remote Commander as on the digital camcorder function identically.



1 **Transmitter**
Point toward the remote sensor to control the digital camcorder after turning on the digital camcorder.
2 **PHOTO button** (p.45)
3 **DISPLAY button** (p. 36)
4 **SEARCH MODE/◀◀I/I▶▶ buttons** (p. 70)
Press SEARCH MODE to select date search or photo search.
5 **AUDIO DUB button** (p. 76)
6 **ZERO SET MEMORY button**
This button does not function.
7 **VTR4/ID/VTR2 switch** (p. 13)
Select VTR4 or ID, the same setting as COMMANDER in the menu system.
The VTR2 position does not function on this digital camcorder.
8 **START/STOP button**
9 **Zoom button**
The zooming speed is unchangeable by the Remote Commander.
10 **DATA CODE button** (p. 72)
11 **Video control buttons**

To prepare the Remote Commander

To use the Remote Commander, you must insert two size AA (R6) batteries. Use the supplied size AA (R6) batteries.
(1) Remove the battery cover from the Remote Commander.
(2) Insert both of the size AA (R6) batteries with correct polarity.
(3) Put the battery cover back onto the Remote Commander.



Note on battery life
The batteries for the Remote Commander last about 6 months under normal operation. When the batteries become weak or dead, the Remote Commander does not work.

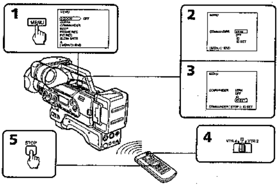
To avoid damage from possible battery leakage
Remove the batteries when you will not use the Remote Commander for a long time.

To use the Remote Commander

Make sure that the COMMANDER is set to VTR4/ID in the menu system on the digital camcorder.

About the ID of the Remote Commander

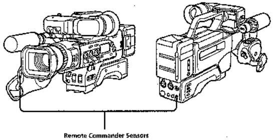
You can avoid having the digital camcorder accidentally respond to signals from other remote commanders by setting the VTR4/ID/VTR2 switch to ID. Use the supplied Remote Commander when you set the switch to ID. When you use the Remote Commander for the first time, register the ID following the procedure below. Once you have registered the ID, you do not need to do so again.
(1) Install a power source, open the cover, then press MENU to display the menu in the viewfinder.
(2) Press ⌄ or ⌃ to select COMMANDER, then press EXECUTE.
(3) Press ⌄ or ⌃ to select ID SET.
(4) Set VTR4/ID/VTR2 on the Remote Commander to ID.
(5) Point the Remote Commander at the Remote Commander sensor on the digital camcorder and press □ on the Remote Commander.
After the beep sound, the ID of the Remote Commander is registered, and the COMMANDER is set to ID in the menu system.
(6) Press MENU to erase the menu display.



Identifying the parts

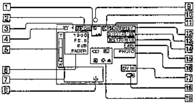
Remote control direction

Aim the Remote Commander at either of the two remote commander sensors. The range of the Remote Commander is about 16 feet (about 5 m) indoors. Use the Remote Commander as close to flat as possible, otherwise it may not work.



Notes on the Remote Commander
- Keep the Remote Commander sensor away from strong light sources such as direct sunlight or illumination. Otherwise, the remote control may not be effective.
- Be sure that there is no obstacle between the Remote Commander sensor on the digital camcorder and the Remote Commander.
- This digital camcorder works in commander mode VTR 4 or ID. The commander modes (VTR 4 and ID) are used to distinguish this digital camcorder from other Sony VCRs. If you use another Sony VCR at commander mode ID, we recommend that you change the commander mode or cover the Remote Commander sensor of the VCR with black paper.
- You do not need to store the ID again, after having done so once. Set COMMANDER to ID in the menu system, and set the VTR4/ID/VTR2 switch on the Remote Commander to ID.
- The stored ID is not erased even if you replace the lithium battery.

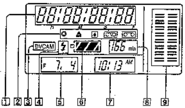
In the viewfinder



1. **Manual focusing indicator** (p. 52)
   ⛰ appears when focusing far, 👤 appears when focusing close.
2. **ND filter indicator** (p. 62)
3. **White balance indicator** (p. 59)
4. **Steady shot indicator** (p. 67)
5. **Zoom indicator** (p. 30, 51)
6. **Manual setting data/fader or overlap/ AGC LMT indicators** (p. 53, 54, 57, 43, 44)
   If not set, the indicator disappears, and all indicators below rise 1 row.
7. **Data code indicators** (p. 72)
8. **Lithium battery indicator** (p. 77)
9. **Recording/battery indicator** (p. 26)
10. **Custom preset indicator** (p. 68)
11. **DV indicator** (p. 37)
    During DV-formatted cassette playback, this indicator appears.
12. **Video control mode** (p. 26)
13. **Time code**
14. **Remaining tape indicator**
15. **Audio mode indicator** (p. 29)
16. **INTERVAL/FRAME REC/PHOTO/ C MEMORY/date search/Photo search indicator** (p. 46, 47, 45, 25, 70)
17. **DV IN indicator** (p. 74)
18. **Remaining battery indicator** (p. 83)
    ▰▰▰▰ → ▰▰▰ → ▰▰ → ▰ → ▭
19. **Warning indicators** (p. 95)

Identifying the parts

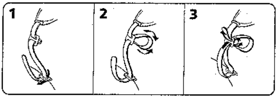
In the display window



1. **Time code**
2. **Warning indicators** (p. 95)
3. **DVCAM indicator**
   Lights up when using a DVCAM-formatted cassette.
4. **Flash indicator**
5. **Date/aperture indicator** (p. 72, 53)
6. **Remaining battery indicator** (p. 83)
7. **Time indicator**
8. Remaining tape indicators
9. **Audio level indicators** (p. 65)

Attaching the shoulder strap

Attach the shoulder strap (not supplied) to the hooks for the shoulder strap.



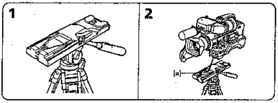
Attaching optional accessories

Attaching digital camcorder to the tripod adaptor

Use the VCT-U14 tripod adaptor (not supplied). Once the tripod adaptor has been attached to the tripod stand, then you may attach the digital camcorder.

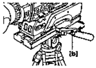
(1) Attach the tripod adaptor to the tripod.

(2) Attach the digital camcorder to the tripod stand's grooved surface **[a]**, and slide it forward until you hear a click.
Select a balanced and secure position for the tripod stand.



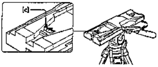
To remove the digital camcorder from the tripod

Press the red button on the release lever **[b]**, and while holding, move the lever in the direction of the arrow to release the lock.



Note on tripod attachment pin

If the tripod attachment pin **[c]** does not return after removing the digital camcorder, press the red button on the release lever, and while holding, move the lever in the direction of the arrow and the pin returns to its original position. If the pin is not set in its original position you will not be able to reattach the digital camcorder.

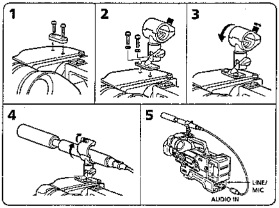


Attaching optional accessories

Attaching the external microphone with XLR connector

When using the ECM-672 external microphone (not supplied), attach the CAC-12 microphone holder (not supplied) to the digital camcorder.

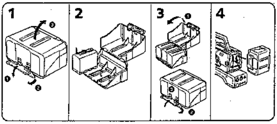
(1) Remove the screws from the top of the viewfinder.
Remove the spacer from the screws. They are unnecessary when attaching the microphone holder.
(2) Attach the microphone holder with the supplied washers and the screws removed in step (1).
(3) Loosen the microphone holder screw and open the cover.
(4) Place the microphone into the holder, close the cover, and tighten the screw.
(5) Connect the microphone to the AUDIO IN jacks of the digital camcorder, then set LINE/MIC to MIC REAR.



Attaching the battery adaptor

The NPA-10000 battery adaptor (not supplied), can hold up to 3 battery packs NP-F930, NP-F730 or NP-720 (not supplied). Attach the adaptor to the digital camcorder.

(1) Release the lock and open the cover.
(2) Insert the battery packs in the direction of the ➤ mark on the battery packs.
(3) Close the cover, then lock.
(4) Attach the battery adaptor to the digital camcorder by sliding until it clicks.



To remove the battery adaptor [a]

While pressing BATT, lift the battery adaptor out in the direction of the arrow.

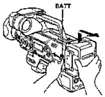
To remove the battery pack [b]

Open the cover, press and hold the release lever, and slide the battery pack out in the direction of the arrow.

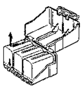
Checking the remaining battery indicator [c]

Press CHECK on the battery adaptor.
If there is still power left in the batteries, the lamp [d] lights.

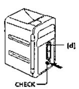
[a]



[b]



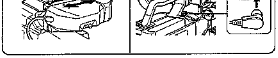
[c]



Attaching the viewfinder

Before using the digital camcorder, attach the viewfinder.

(1) Loosen the viewfinder release ring.
(2) Slide the viewfinder onto the attaching plate.
(3) Adjust the position of the viewfinder, then tighten the viewfinder release ring.
(4) Attach the 8 pin connector to the VIEW FINDER jack on the digital camcorder.
Match ridge on 8 pin connector to the ridge on the jack.



Note on the VIEW FINDER jack
This VIEW FINDER jack is specially designed for this digital camcorder. Do not connect anything else to this VIEW FINDER jack.

To remove the viewfinder

Loosen viewfinder release ring. Then pull stopper **[a]** up, and while holding, slide viewfinder off the attaching plate.

Charging and installing the battery pack

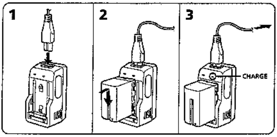
Before using your digital camcorder, you first need to charge and install the battery pack (not supplied). To charge the battery pack, use the AC-V615 AC power adaptor (not supplied).
This digital camcorder does not interface with "InfoLITHIUM" batteries. The remaining time (minutes) indication does not appear when using "InfoLITHIUM" batteries.

Charging the battery pack

Charge the battery pack on a flat surface without vibration.

(1) Connect the power cord to the AC power adaptor.
(2) Align the surface of the battery pack indicated by the ► mark with the edge of the terminal shutter of the AC power adaptor. Then fit and slide the battery pack in the direction of the arrow.
(3) Connect the AC power cord to a wall outlet. The CHARGE lamp (orange) lights up. Charging begins.

When the CHARGE lamp goes out, **normal charge** is completed. For **full charge**, which allows you to use the battery longer than usual, leave the battery pack in place for approximately one hour. Unplug the unit from the wall outlet, then remove the battery pack and install it into the digital camcorder. You can also use the battery pack before it is completely charged.



Charging time

Battery pack	Charging time* (min.)
NP-F930	330 (270)
NP-F730/720	250 (190)

The time required for a normal charge is indicated in parentheses.

* Approximate minutes to charge an empty battery pack using the AC-V615 AC power adaptor. (Lower temperatures require a longer charging time.)

Charging and installing the battery pack

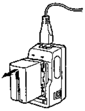
Battery life

Battery pack	Continuous recording time$^{1)}$	Typical recording time$^{2)}$
NP-F930	120 (110)	75 (70)
NP-F730/720	80 (75)	50 (45)
NP-F930 (x3)$^{3)}$	360 (330)	225 (210)

Numbers in parentheses indicate the time when you use a normally charged battery.
Battery life will be shorter if you use the digital camcorder in a cold environment.

1) Approximate continuous recording time indoors.
2) Approximate minutes when recording while you repeat recording start/stop, zooming and turning the power on/off. The actual battery life may be shorter.
3) When using the NPA-10000 battery adaptor.

To remove the battery pack
Slide the battery pack in the direction of the arrow.

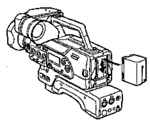


Notes on charging the battery pack

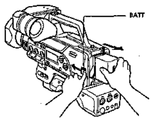
- The CHARGE lamp will remain lit for a while even if the battery pack is removed and the power cord is unplugged after charging the battery pack. This is normal.
- If the CHARGE lamp does not light, disconnect the power cord. After about one minute, reconnect the power cord again.
- When operating the digital camcorder using the AC power adapter, you cannot charge the battery pack.
- When a fully charged battery pack is installed, the CHARGE lamp will light once, then go out.

Installing the battery pack

Insert the battery pack in the direction of the ▼ mark on the battery pack. Slide the battery pack down until it catches on the battery release and clicks.



To remove the battery pack
While pressing BATT, lift the battery pack out in the direction of the arrow.



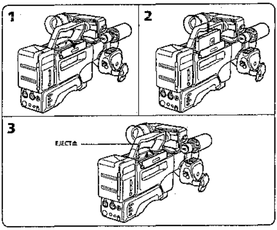
Inserting a cassette

Use a standard DVCAM cassette with DVCAM. logo*.
Make sure that a power source is installed.
We recommend you set the POWER switch to ON before inserting the cassette.

(1) Open the cassette compartment cover.
(2) Insert a cassette (not supplied) with the tab upwards, and the window facing out and press down so that the cassette loads.
(3) Close the cover.

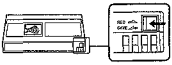
Note on the cassette
Mini DVCAM cassettes and Mini DV cassettes cannot be used.

* DVCAM. is a trademark.



To eject the cassette
Open the cassette compartment cover and press ⏏. After the cassette rises, take it out, then close the cover.
You cannot eject the cassette while C MEMORY appears in the viewfinder because the digital camcorder is still writing information into the cassette memory. After C MEMORY disappears the cassette automatically rises.
When ejecting the cassette, never close the cassette compartment cover until the cassette is completely removed.

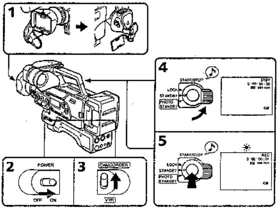
To prevent accidental erasure
Slide the tab on the cassette to expose the red mark. If you insert the cassette with the red mark exposed, the beeps sound, the ⊘ and ⏏ indicators flash in the viewfinder and display window, and you cannot record.
To re-record on this tape, slide the tab back out, covering the red mark.



Camera recording

Make sure that the power source is installed and a cassette is inserted and that AUTO LOCK is set to ON. When AUTO LOCK is set to ON, all settings are automatically adjusted to best suit your shooting environment. Before you record one-time events, you may want to make a trial recording to make sure that the digital camcorder is working correctly.
When you use the digital camcorder for the first time, power on it and reset the date and time to your time before you start recording (p. 79).

(1) Remove the lens hood cap, and attach it to the grip strap.
(2) Set the POWER switch to ON.
(3) Set CAMCORDER/VTR to CAMCORDER.
(4) Turn STANDBY up to STANDBY.
(5) Press START/STOP.
The digital camcorder starts recording. The "REC" indicator appears and the red lamp lights up in the viewfinder. The tally lamps located on the front and rear also light up.



When ND ON flashes in the viewfinder
Set ND FILTER to ON.

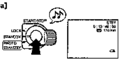
To stop recording momentarily [a]

Press START/STOP again. The "STBY" indicator appears in the viewfinder (Standby mode).

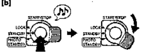
To finish recording [b]

Press START/STOP again. Turn STANDBY down to LOCK, and set the POWER switch to OFF. Then, eject the cassette and remove the battery pack.

[a]



[b]



To focus the viewfinder lens [c]

If you cannot see the indicators in the viewfinder clearly, or after someone else has used the digital camcorder, focus the viewfinder lens. Turn the viewfinder lens adjustment ring so that the indicators in the viewfinder come into sharp focus.

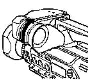
To adjust the contrast and the brightness of the viewfinder [d]

To adjust the contrast, turn the CONTR knob.
To adjust the brightness, turn the BRIGHT knob.

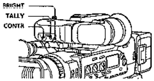
If you want to turn off the tally lamp [d]

Set TALLY to OFF.
The rear tally lamp cannot be turned off.

[c]



[d]



Camera recording

Note on recording
When you record from the beginning of a tape, run the tape by recording for about 15 seconds before you start the actual recording. This will ensure that you won't miss any start-up scenes when you play back the tape.

Note on Standby mode
If you leave the digital camcorder in Standby mode for 5 minutes while a cassette is inserted, the digital camcorder turns off automatically. This prevents wearing down the battery and wearing out the tape. To resume Standby mode, turn STANDBY down and up again. To start recording, press START/STOP.

Note on time code display
While recording or playing back, the time code shows hours, minutes, seconds and frame number (0:00:00:00). If there is a blank portion between pictures on a tape, the time code restarts from zero. You cannot rewrite the time code only.
You can select the drop frame or non-drop frame system. Set DF or NDF using the TC switch inside the cover of the video control buttons.

Note on the beep sound
As indicated with ♪ in the illustration, a beep sounds when you turn the power on or when you start recording, and two beeps sound when you stop recording, confirming the operation. Several beeps also sound as a warning of any unusual condition of the digital camcorder.
Note that the beep sound is not recorded on the tape. If you do not want to hear the beep sound, select "OFF" in the menu system.

To change the directionality of the built-in microphone

Set DIRECTION SELECT on the back of the microphone to the desired position (0°/90°/120°).

To record through an external microphone
Connect a microphone (not supplied) to the MIC (PLUG IN POWER) jack or AUDIO IN input jacks. You can also attach a microphone to the accessory shoe or to the microphone holder (not supplied). Then select the input mode using the LINE/MIC switches. In this case, sound from the built-in microphone will not be recorded.

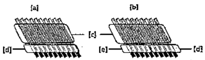
When the microphone has	Connect to	Set LINE/MIC to
Mini-plug	MIC (PLUG IN POWER)	MIC FRONT
XLR connector	AUDIO IN (CH-1/CH-2)	MIC REAR

To monitor the sound while recording

Use headphones or the built-in speaker. To turn on the built-in speaker, set SPEAKER to ON. To use headphones, connect them to the Ω jack. Use the MONITOR LEVEL dial to adjust the volume of the speaker or headphones. When using headphones the built-in speaker becomes inactive.
When monitoring the built-in speaker, feedback may occur. In this case, turn down the MONITOR LEVEL or SPEAKER set to OFF.

To select Fs 48k [a] or Fs 32k [b] recording mode

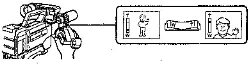
Set AUDIO MODE to Fs 48k (16 bit) so that you can get higher sound quality. In Fs 48k mode, the digital camcorder records one video sector **[c]** and one audio sector **[d]**. In the viewfinder the "48k" indicator appears.
Set AUDIO MODE to Fs 32k (12 bit), and 1 sector is left open for audio dubbing afterwards. In Fs 32k mode, the digital camcorder records one video sector **[c]**, one audio sector **[d]**, and one blank audio sector **[e]**, which enables you to add narration or music after the initial recording.



Camera recording

Using the zoom feature

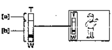
Zooming is a recording technique that lets you change the size of the subject in the scene.
"T" side: for telephoto (subject appears closer)
"W" side: for wide-angle (subject appears farther away)



Zooming speed (Variable speed zooming)
Press the power zoom button a little for a slower zoom, press it more for a faster zoom.

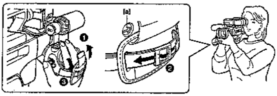
When you shoot a subject using a telephoto zoom
If you cannot get a sharp focus while in extreme telephoto zoom, press the power zoom button to the "W" side until the focus is sharp. You can shoot a subject that is at least about 2 5/8 feet (about 80 cm) away from the lens surface in the telephoto position, or about 1/2 inch (about 1 cm) away in the wide-angle position.

Notes on digital zoom
- More than 10x zoom is performed digitally if you set D ZOOM to ON in the menu system, and the picture quality deteriorates as you go toward the "T" side.
- The upper side **[a]** of the power zoom indicator shows the digital zooming zone, and the lowerside **[b]** shows the optical zooming zone. If you set the D ZOOM function to OFF, the **[a]** zone disappears.



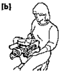
Hints for better shooting

When shooting with the digital camcorder on your shoulder, you'll get better results by holding the digital camcorder according to the following suggestions:
- Place the digital camcorder on your shoulder and secure it with the grip strap so that you can easily manipulate the controls with your thumb.
- To adjust the grip, loosen the grip screw **[a]** with a coin, rotate the grip, and then tighten the screw. Set the grip to one of the three different position marks.

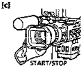


- Place your right elbow against your side.
- Place your left hand under the digital camcorder to support it. Be sure to not touch the built-in microphone.
- Place your eye firmly against the viewfinder eyecup.
- Use the viewfinder frame as a guide to determine the horizontal plane.
- You can also record in a low position to get an interesting angle. Lift the viewfinder up for recording from a low position **[b]**.
- While recording in a low position, you can use the front START/STOP button **[c]**.
- You can rotate the viewfinder 120° up and 90° down. This is useful when recording in a high or low position **[d]**.

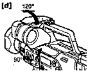
[b]



[c]



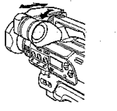
[d]



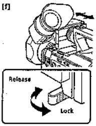
Hints for better shooting

- You can move the viewfinder up to about 1 3/16 inches (30 mm) laterally. Turn the lock ring to release the viewfinder, and then move it. Turn back the lock ring to fix the viewfinder in place **[e]**.
- You can move the viewfinder up to about 1 3/16 inches (30 mm) lengthwise. Turn the lock lever under the viewfinder to release it, and then move the viewfinder. Turn back the lock lever to fix the viewfinder in place **[f]**.

[e]



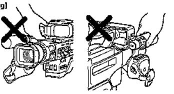
[f]



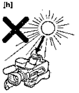
Caution on carrying
Do not pick up the digital camcorder by anything other than the grip or handle **[g]**.

Caution on the viewfinder
Do not place the digital camcorder so as to point the viewfinder toward the sun. The inside of the viewfinder may be damaged.
Be careful when placing the digital camcorder under sunlight or by a window **[h]**.

[g]



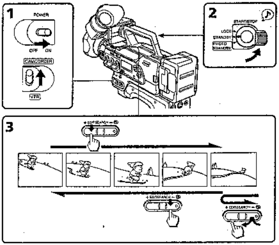
[h]



Note on the viewfinder
When attaching the video light (not supplied) to the accessory shoe, do not lift the viewfinder. The video light heat may damage the eyecup.

Checking the recorded picture

Using EDITSEARCH, you can review the last recorded scene or check the recorded picture in the viewfinder.
(1) Set the POWER switch to ON and then set CAMCORDER/VTR to CAMCORDER.
(2) Turn STANDBY up to STANDBY.
(3) Press the – (⊞) side of EDITSEARCH momentarily; the last few seconds of the recorded portion play back **(Rec Review)**.
Hold down the – side of EDITSEARCH until the digital camcorder goes back to the scene you want. The last recorded portion is played back. To go forward, hold down the + side **(Edit Search)**.



To stop playback
Release EDITSEARCH.

To begin re-recording
Press START/STOP. Re-recording begins from the point you released EDITSEARCH. Provided you do not eject the cassette, the transition between the last scene you recorded and the next scene you record will be smooth.

Note on the EDITSEARCH
If you press EDITSEARCH fully, the playback speed doubles.

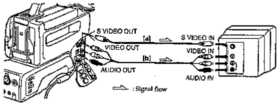
Connections for playback

You can use this digital camcorder as a VCR by connecting it to monitor for playback. There are some ways to connect the digital camcorder to monitor. When monitoring the playback picture by connecting the digital camcorder to monitor, we recommend you to use house current for power source.

Connecting directly to a monitor with Video/Audio input jacks

If you connect directly to a monitor

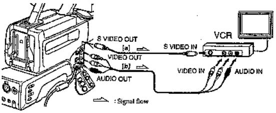
Open the jack cover and connect the digital camcorder to the inputs on the monitor by using the supplied A/V connecting cable.



If you are going to connect the digital camcorder using the S video cable **[a]**, you do not need to connect the yellow (video) plug of the A/V connecting cable **[b]**.

If your monitor is already connected to a VCR

Open the jack cover and connect the digital camcorder to the LINE IN inputs on the VCR by using the supplied A/V connecting cable. Set the input selector on the VCR to LINE. Set the monitor/VCR selector on the monitor to VCR.



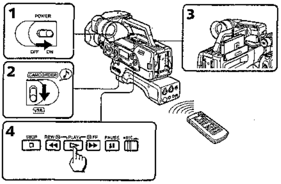
If your monitor or VCR has a BNC jack
When connecting video output using BNC cable, connect to the rear VIDEO OUT jack. In this connection, you need not connect S video cable nor the yellow (video) plug of the A/V connecting cable.

If your monitor or VCR is a monaural type
Connect *only the white plug for audio on both the digital camcorder and the monitor.* With this connection, the sound is monaural.

To connect to a TV without Video/Audio input Jacks
Use the RFU-95UC RFU adaptor (not supplied).

Playing back a tape

You can monitor the playback picture in the viewfinder. You can also monitor the picture on a monitor screen, after connecting the digital camcorder to a monitor or VCR.
(1) Set the POWER switch to ON
(2) Set CAMCORDER/VTR to VTR.
(3) Insert the recorded tape with the window facing out.
(4) Open the cover, then press ▷ to start playback.



To stop playback, press □.
To rewind the tape, press ◀◀.
To fast-forward the tape rapidly, press ▶▶.

To monitor the sound while viewing the playback picture in the viewfinder

Connect headphones (not supplied) to the ♫ jack or turn on the built-in speaker by setting SPEAKER to ON.

Using the Remote Commander

You can control playback using the supplied Remote Commander. Before using the Remote Commander, insert the size AA (R6) batteries.

Note on the DISPLAY button on the remote commander
Press DISPLAY to display the screen indicators. To erase the indicators, press DISPLAY again.

Note on DV-formatted tapes

You can play back DV-formatted tapes on this digital camcorder if the tape is recorded in SP mode. "DV" appears in the viewfinder during playback.
You cannot play back DV-formatted tapes recorded in LP mode.

Various playback modes

To view a still picture (playback pause)

Press ❚❚ during playback. To resume playback, press ❚❚ or ▷.

To locate a scene (picture search)

Keep pressing ◀◀ or ▶▶ during playback. To resume normal playback, release the button.

To monitor the high-speed picture while advancing the tape or rewinding (skip scan)

Keep pressing ◀◀ while rewinding or ▶▶ while advancing the tape. To resume *normal playback, press* ▷.

To view the picture at 1/5 speed (slow playback)

Press ❚▶ during playback. To resume normal playback, press ▷. If slow playback lasts for about 1 minute, it shifts to normal speed automatically.

To view the picture at double speed

For double speed playback in the reverse direction, press ◀❚❚/<, then press x2 on the Remote Commander during playback. For double speed playback in the forward direction, press >/❚❚▶, then press x2 during playback. To resume normal playback, press ▷.

To view the picture frame-by-frame

Press ◀❚❚/< or >/❚❚▶ in playback pause mode. If you keep pressing the button, you can view the picture at 1/30 speed. To resume normal playback, press ▷.

To change the playback direction

Press ◀❚❚/< for reverse direction or >/❚❚▶ for forward direction during playback. To resume normal playback, press ▷.

Notes on playback
- Streaks appear and the sound is muted in the various playback modes.
- When playback pause mode is left on for 5 minutes, the digital camcorder automatically enters stop mode.
- When using playback slow or still picture modes, images from the previous frames might to seen mixed in with the main picture.

Using alternative power sources

You can choose any of the following power sources for your digital camcorder: battery pack and the house current. Choose the appropriate power source depending on where you want to use your digital camcorder.

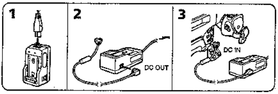
Place	Power source	Accessory to be used (not supplied)
Indoors	House current	AC power adaptor AC-V615
Outdoors	Battery pack	Battery pack NP-F930, NP-F730, NP-720 Battery adaptor NPA-10000

Note on AC power adaptor
Use the recommended AC power adaptor, such as AC-V615.

Note on power sources
Disconnecting the power source or removing the battery pack during recording or playback may damage the inserted tape. If this happens, restore the power supply again immediately.

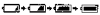
Using the house current

(1) Connect the power cord to the AC power adaptor.
(2) Connect the power cord to a wall outlet, then connect the connecting cord (not supplied) to the DC OUT jack on the AC power adaptor.
(3) Connect the connecting cord to the DC IN jack on the digital camcorder.



Charging the attached battery pack
After connecting the power cord to the wall outlet and setting the POWER switch on the digital camcorder to OFF, you can charge the battery pack in either of the following two ways:

- Charging the battery pack attached to the digital camcorder
  Leave the battery pack attached to the digital camcorder. (The NP-F930 battery pack (not supplied) requires about 390 minutes for a full charge and about 330 minutes for a normal charge.)
  While charging, the battery indicator appears repeatedly in the display window:



- Charging two battery packs at the same time
  Attach one battery pack to the AC power adaptor and the other to the digital camcorder. Both are charged simultaneously. When charged, CHARGE lamp and the ▨ indicator goes out (normal charge). If either lamp is still lit, both battery packs are not charged (the NP-F930 battery packs (not supplied) require about 480 minutes for a full charge and about 420 minutes for a normal charge).

To remove the adaptor
Pull out by the plug. Never pull on the connecting cord itself.

WARNING
The power cord must only be changed at a qualified service shop.

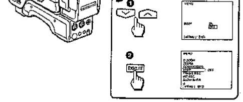
PRECAUTION
The set is not disconnected from the AC power source (mains) as long as it is connected to the wall outlet, even if the set itself has been turned off.

Notes on the VTR/CAMERA lamp
- The VTR/CAMERA lamp will remain lit for a while even if the unit is unplugged after use. This is normal.
- If the VTR/CAMERA lamp does not light, disconnect the power cord. After about one minute, reconnect the power cord.

This mark indicates that this product is a genuine accessory for Sony video products.
When purchasing Sony video products, Sony recommends that you purchase accessories with this "GENUINE VIDEO ACCESSORIES" mark.

Changing the mode settings

You can change the mode settings in the menu system to further enjoy the features and functions of the digital camcorder.
(1) Open the cover, then press MENU to display the menu.
(2) Press ⌄ or ⌃ to select the desired item, then press EXECUTE.
(3) Press ⌄ or ⌃ to select the desired setting, then press EXECUTE.
For some items, you may need to repeat steps 2 and 3.
(4) Press MENU to erase the menu display.



Selecting the mode setting of each item

Items for both CAMCORDER and VTR modes

COMMANDER* <VTR4/OFF/ID/ID SET>
- Normally select VTR4.
- Select OFF when not using the Remote Commander.
- Select ID when using the Remote Commander with the ID number set.
- Select ID SET when setting the ID number of the Remote Commander.

BEEP* <ON/OFF>
- Select ON so that beeps sound when you start/stop recording, etc.
- Select OFF when you do not want to hear the beep sound.

CLOCK SET*
Reset the date and time.

Items for CAMCORDER mode only

D ZOOM* <OFF/ON>
Before turning on D ZOOM, set the DIGITAL MODE switch to ZOOM.
- Select OFF to not use the digital zoom.
- Select ON to activate digital zooming. More than 10x zoom is performed digitally.

ZEBRA* <OFF/ON>
- Normally select OFF.
- Select ON to shoot with the zebra pattern displayed in the viewfinder.

FRAME REC <OFF/ON>
- Normally select OFF.
- Select ON for cut recording.

INT REC <RETURN> <SET> <INTERVAL*/REC TIME*>
- Select RETURN to return to the menu to change other menu items.
- Select SET to set interval recording ON or OFF.
- Select INTERVAL to set or change the interval time for interval recording.
- Select REC TIME to set or change the recording time for interval recording.

SLOW SHTR* <4/8/15/30>
Before setting, turn the SHUTTER SPEED dial to SLOW.
Select a slow shutter speed.

S PRESET* <60/100/250/500/1000/2000/4000/10000>
Before setting, turn the SHUTTER SPEED dial to PRESET.
Select a shutter speed.

G PRESET* <–3dB/0dB/3dB/6dB/9dB/12dB/15dB/18dB>
Before setting, turn the GAIN dial to PRESET.
Select a gain level.

AGC LIMIT* <OFF/ON>
- Normally select OFF.
- Select ON when shooting a bright subject on a dark background.
  This function prevents the digital camcorder from creating picture noise by controlling excessive automatic gain level.

Changing the mode settings

CUSTOM* <RETURN> <SET> <COLOR LEV/SHARPNESS/WB SHIFT/AE SHIFT> <RESET>
- Select RETURN to return to the menu to change other menu items.
- Select SET to set custom preset ON or OFF.
- Select COLOR LEV/SHARPNESS/WB SHIFT/AE SHIFT to preset the color intensity (COLOR LEV), sharpness (SHARPNESS), white balance (WB SHIFT), and brightness (AE SHIFT) of the picture.
- Select RESET to restore the default settings.

Items for VTR mode only

AUDIO MIX*
When playing back a tape recorded with Fs 32k, select this item to adjust the volume balance between audio mode ST1 and ST2.

CM SEARCH* <ON/OFF>
- Normally select ON to turn on the cassette memory search function.
- Select OFF to search without using the cassette memory function.

DATA CODE* <DATE/CAM/DATE>
- Select DATE/CAM to display date and time, as well as various settings data, of your recordings.
- Select DATE to display date and time, of your recordings.

When DIGITAL MODE is set to OVERLAP
You cannot set D ZOOM to ON. When you set the DIGITAL MODE switch to OVERLAP, D ZOOM setting is changed to OFF automatically.

About FRAME REC and INT REC setting
Both settings are automatically set to off when:
- The POWER switch is set to OFF.
- CAMCORDER/VTR is set to VTR.
- Turn STANDBY up to PHOTO STANDBY.

* These settings are retained even when the battery is removed, as long as the lithium battery is in place.

Fade-in and fade-out

When fading in, the picture gradually fades in from black while the sound increases.
When fading out, the picture gradually fades to black while the sound decreases.
To use fade-in and fade-out, press FADER/OVERLAP to display FADER in the viewfinder.

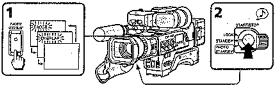
When fading in [a]

(1) While the digital camcorder is in Standby mode, press FADER/OVERLAP. The fade indicator starts flashing.
(2) Press START/STOP to start recording. The fade indicator stops flashing.

When fading out [b]

(1) During recording, press FADER/OVERLAP. The fade indicator starts flashing.
(2) Press START/STOP to stop recording. The fade indicator stops flashing, and then recording stops.

[a]
STBY
REC
[b]
STBY
REC



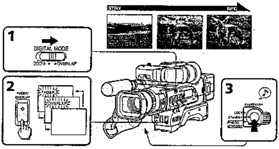
To cancel the fade-in/fade-out function

Before pressing START/STOP, press FADER/OVERLAP until the indicator disappears.

Note on the fade-in/fade-out function
You can not fade-in or fade-out while recording with interval recording, cut recording, or photo recording.

Overlapping two pictures

When using the overlap function, the picture gradually fades in over a still picture of the last scene recorded.
(1) While the digital camcorder is in Standby mode, set DIGITAL MODE to OVERLAP.
(2) Press FADER/OVERLAP repeatedly until "OVERLAP" appears in the viewfinder.
(3) Press START/STOP to start recording.
The scene being shot gradually fades in over the still picture of the last recorded scene.



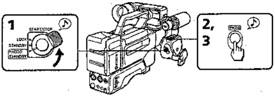
To cancel the overlap function

Before pressing START/STOP, press FADER/OVERLAP until the indicator disappears.

Notes on the overlap function
- You cannot use the overlap function while recording with interval recording, cut recording, or photo recording.
- When in Standby mode select OVERLAP, the digital camcorder automatically goes into picture search, then the last recorded scene is stored for overlap.
- When you set DIGITAL MODE to OVERLAP, D ZOOM setting is set to OFF automatically.

Photo recording

You can record a still picture like a photograph for about seven seconds. This mode is useful when you want to enjoy a picture such as a photograph or when you print a picture using a video printer (not supplied).
(1) Turn STANDBY up to PHOTO STANDBY.
PHOTO appears in the viewfinder.
(2) Keep pressing PHOTO lightly until a still picture appears in the viewfinder.
To change the still picture, release PHOTO, select a still picture again, and then press and hold PHOTO lightly. PHOTO CHAPTER appears in the viewfinder.
(3) Press PHOTO deeper.
The still picture in the viewfinder is recorded for about seven seconds. The sound during those seven seconds is also recorded. If you change the POWER switch or STANDBY to other positions while recording, this operation is performed after recording.



To use the remote commander to take a photo

If you press the PHOTO button on the Remote Commander when a still picture appears in the viewfinder, the digital camcorder will record that still picture. However, you cannot select other still pictures by using this button.

Note on automatic shutter speed adjustment
If AUTO LOCK is ON or AUTO/MANUAL is set to AUTO, the shutter speed is automatically adjusted up to 1/1000 depending on the environment.

To use a flash

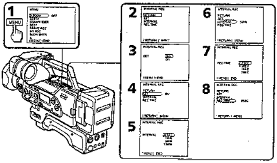
Attach the HVL-F7 video flash unit (not supplied) to the accessory shoe, and then connect a LANC cable to the LANC jack.

Note on using a flash
When using a flash, the shutter speed is automatically adjusted to 1/60 if using automatic adjustment, and if using manual adjustment, we recommend using a shutter speed of 1/60.

Interval recording

You can make a time-lapse like recording by setting the digital camcorder to automatically record and standby sequentially. You can achieve an excellent recording for flowering, emergence, etc., with this function.

(1) While the digital camcorder is in Standby mode, open the cover, then press MENU to display the menu in the viewfinder.
(2) Press ⌄ or ⌃ to select INT REC, then press EXECUTE.
(3) Press ⌄ or ⌃ to select SET, then press EXECUTE.
(4) Press ⌄ or ⌃ to select ON, then press EXECUTE.
(5) Press ⌄ or ⌃ to select INTERVAL, then press EXECUTE.
(6) Press ⌄ or ⌃ to select the desired waiting time, then press EXECUTE.
The time: 30SEC ⟷ 1MIN ⟷ 5MIN ⟷ 10MIN.
(7) Press ⌄ or ⌃ to select REC TIME, then press EXECUTE.
(8) Press ⌄ or ⌃ to select the desired recording time, then press EXECUTE.
The time: 0.2SEC ⟷ 0.5SEC ⟷ 1SEC ⟷ 2SEC.
(9) Press MENU to erase the menu display.
You can also press ⌃ to select RETURN, then press EXECUTE to return to the menu display.
(10) Press START/STOP to start interval recording.



To stop interval recording
Press START/STOP twice.

To cancel interval recording
Set the INT REC mode to OFF in the menu system.

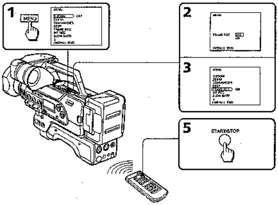
Note on interval recording
You cannot do interval recording with photo recording.

If you change the mode as follows, interval recording is cancelled
- Turn STANDBY down to LOCK.
- Set the POWER switch to OFF.
- Set CAMCORDER/VTR to VTR.

Cut recording

You can make a recording with a stop-motion animated effect using cut recording. To create this effect, alternately move the subject a little and make a cut recording. Secure the digital camcorder and use the Remote Commander for effective cut recording.

(1) While the digital camcorder is in Standby mode, open the cover, then press MENU to display the menu in the viewfinder.
(2) Press ⌄ or ⌃ to select FRAME REC, then press EXECUTE.
(3) Press ⌄ or ⌃ to select ON, then press EXECUTE.
(4) Press MENU to erase the menu display.
(5) Press START/STOP on the digital camcorder or the Remote Commander to start cut recording.
The digital camcorder records about 6 frames, then enters recording Standby mode.
(6) Move the subject, and repeat step 5.



To cancel cut recording
Set the FRAME REC mode to OFF in the menu system.

Notes on cut recording
- The portion immediately after cut recording is completed may be longer than four frames.
- You cannot do cut recording with photo recording.
- The remaining tape indicator may not be accurate if you do cut recording repeatedly.

If you change the mode as follows, cut recording is cancelled
- Turn STANDBY down to LOCK.
- Set the POWER switch to OFF or CAMCORDER/VTR to VTR.

Selecting automatic or manual mode

The digital camcorder's automatic functions offer you worry-free operation under most shooting conditions. But in some circumstances, manual adjustment is better for creative recording.
You can adjust focus, aperture, shutter speed, gain, and white balance automatically or manually.
Here's the overview of each manual adjustment. See the following pages for detailed information.

To focus manually

Set FOCUS to MANU. You can adjust the focus regardless of the position of the AUTO LOCK switch. When you want to focus automatically, set FOCUS to AUTO.

To manually adjust aperture, shutter speed, gain, and white balance

Set AUTO LOCK to OFF. By setting AUTO (AGC, ATW)/MANUAL to MANUAL, you can adjust each item independently. When you want to adjust each item automatically, set AUTO/MANUAL to AUTO (AGC, ATW).

When to adjust aperture, shutter speed, and gain manually

When selecting one of aperture, shutter speed, or gain to be adjusted manually and leaving the remaining two in automatic adjustment, the remaining two automatic settings adjust their values based on the value of that one manual setting.
In the following cases you should obtain better results by adjusting setting manually.

[a]

[b]

[c]

[a] **Shooting portraits** – adjust aperture manually.
To alter the depth of focus field, softening the background and making the subject stand out, portrait style.

[b] **Shooting sporting events** – adjust shutter speed manually.
- To record fast moving objects and protect against blurring of subject.
- To brighten subject in dark situations.
- To prevent the aperture from closing down in unusually bright situations.

[c] **Shooting dark environments** – adjust gain manually.
- To suppress color distortion when shooting bright objects in dark places.
- To protect against picture distortion when shooting bright objects.

Settings for each item

Item	Selectable steps	Variation of exposure	Brighter ⟷ Darker
Aperture	13 steps	0.5 EV/step	F1.6 ⟶ F11, CLOSE
Shutter speed	12 steps	1 – 2 EV/step	1/4 ⟷ 1/10000
Gain	8 steps	0.5 EV / step	+18 dB ⟷ –3dB

Note on recording in manual mode
We recommend that you adjust the focus and white balance manually.

Relation of aperture, shutter speed and gain

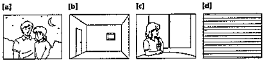
While recording, a picture's brightness varies by exposure, you need to keep the exposure fixed to obtain a fixed brightness.

Total EV (exposure) = EV from aperture control
+ EV from shutter speed control
+ EV from gain control

Focusing manually

When to use manual focus

In the following cases you should obtain better results by adjusting the focus manually.

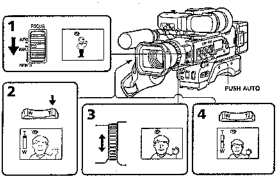


- Insufficient light **[a]**
- Subjects with little contrast - walls, sky, etc. **[b]**
- Too much brightness behind the subject **[c]**
- Horizontal stripes **[d]**
- Subjects through frosted glass
- Subjects beyond nets, etc.
- Bright subject or subject reflecting the light
- Shooting a stationary subject when using a tripod

Focusing manually

When focusing manually, first focus in telephoto before recording, and then reset the shot length.

(1) Set FOCUS to MANU. The ⚲ indicator appears in the viewfinder.
(2) Press the power zoom button on the "T" side so that the bar in the viewfinder moves all the way to the "T" side.
(3) Turn the focus ring to achieve a sharp focus.
(4) Set the desired shot length using the power zoom button.



Shooting with auto focusing momentarily

Press PUSH AUTO while focusing manually.
Auto focus functions while you are pressing PUSH AUTO.
When you release PUSH AUTO, manual focusing returns.
You can use this feature to switch between two subjects cleanly.

Focusing manually

To return to autofocus mode

Set FOCUS to AUTO. The ⚲ indicator in the viewfinder disappears.

Shooting in relatively dark places
Shoot at wide-angle after focusing in the telephoto position.

Shooting in fast-moving subjects relatively bright places
Shoot at wide-angle.

To record a very distant subject

Push FOCUS down to INFINITY. The lens focuses on the most distant subject while FOCUS is held down. When it is released, manual focus mode is resumed.
Use this function when shooting through a window or a screen, to focus on a most distant subject.

Notes on manual focusing
The following indicators may appear:
⛰ when recording a very distant subject.
⚲ when the subject is too close to focus on.

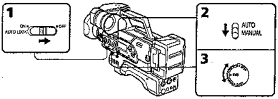
When you shoot close to the subject
Shoot at wide-angle.

Adjusting the aperture

If the difference between the brightness of the subject and the background is too great, adjust the aperture manually.

When the aperture opens (lowering the F value), focal point becomes smaller (reducing depth of field) so that the background will blur and the subject will be in focus **[a]**.
When the aperture closes (raising the F value), focal point becomes greater (increasing depth of field) so that both background and subject will focus clearly **[b]**.

(1) Set AUTO LOCK to OFF.
(2) Set AUTO/MANUAL to the right of the IRIS dial to MANUAL.
The current aperture setting appears in the viewfinder.
(3) Turn IRIS to adjust the aperture.
Using the dial, you can select F1.6, F2, F2.4, F2.8, F3.4, F4, F4.8, F5.6, F6.8, F8, F9.6, F11, and CLOSE. The aperture indicator appears in the viewfinder.
If you select CLOSE, the aperture closes completely, and the picture becomes black (the effect is the same as trying to record with the lens cover attached).



To return to automatic aperture mode

Set AUTO/MANUAL at the right of the IRIS dial to AUTO.

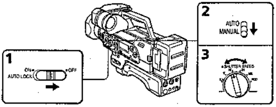
About the depth of focus field
The depth of focus field is the in-focus range measured from the distance behind a subject to the distance in front. The depth of focus field can vary with the aperture value and the focal length. Lowering the F value (larger aperture) reduces the depth of focus field. Raising the F value (smaller aperture) provides a larger depth of focus field. Zooming in telephoto position offers a smaller depth of focus field while the depth of focus field in wide-angle position is greater.

Note on the aperture
When zoom is in telephoto, you can open the aperture as far as F2 (not to F1.6).

Adjusting the shutter speed

Adjust the shutter speed to control the picture quality. When recording sports events, for example, use a high speed shutter to record fast moving objects clearly.
You can select from 6 different shutter speeds SLOW, 60, 100, 250, 1000 and PRESET. SLOW and PRESET have their own menus. Refer to "To adjust the SLOW SHTR (shutter) or S (shutter) PRESET menu items".
Shutter speed numbers that appear in the viewfinder are inverted. For example, "250" means 1/250 sec.

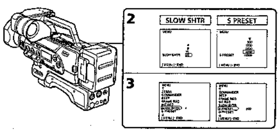
(1) Set AUTO LOCK to OFF.
(2) Set AUTO/MANUAL under the SHUTTER SPEED dial to MANUAL.
(3) Turn SHUTTER SPEED to select a shutter speed. Using the dial, you can select SLOW, 60, 100, 250, 1000, or PRESET. The shutter speed indicator appears in the viewfinder screen.



To return to automatic shutter speed mode
Set AUTO/MANUAL below the SHUTTER SPEED dial to AUTO.

To adjust the SLOW SHTR (shutter) or S (shutter) PRESET menu items
When you want to make a dark scene look brighter or give an object the appearance of motion, use a slow shutter. Select speed from SLOW SHTR menu.
When you want to choose a shutter, set dial to PRESET, then select the appropriate, shutter speed from the S PRESET menu.
The chosen speed data is set into memory. When you dial another setting, (e.g. 100), then return to PRESET or SLOW, the previous speed is selected automatically.

(1) Open the cover, then press MENU to display the menu.
(2) Press ∨ or ∧ to select SLOW SHTR or S PRESET, then press EXECUTE.
(3) Press ∨ or ∧ to select a setting, then press EXECUTE.
You can select the following shutter speeds:
SLOW SHTR — 4, 8, 15, 30
S PRESET — 60, 100, 250, 500, 1000, 2000, 4000, 10000
(4) Press MENU to erase the menu display.



Adjusting the shutter speed

To select the Best Shutter Speed
Concerning shooting conditions and brightness, refer to the following chart to adjust shutter speed accordingly.

Subject	Shutter speed
• A golf swing or tennis match in fine weather	1/500 – 1/10000
• A landscape shot from a moving car or train • A moving roller coaster in overcast days • An athletic scene, marathon, etc.	1/100 – 1/500
• Indoor sports • Replacement for the ND2 filter (to halve the exposure) in situations of glare a sunny beach or a snow covered mountain. • Recording pictures with less flicker under a fluorescent lamp • In sunny weather (to avoid an out-of-focus picture due to a small aperture)	1/100

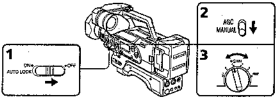
Notes on the slow shutter speed
- You cannot use the slow shutter when DIGITAL MODE is set to OVERLAP.
- When using slow shutter, focusing can become difficult. In this case set focus to manual and put the digital camcorder on a tripod.

Note on the high shutter speed
Using high shutter speed can cause the image to darken. So check brightness using the viewfinder.

Adjusting the gain

If the picture is too dark even with the aperture fully open, and using the slowest acceptable shutter speed, adjust the gain to make the picture as bright as necessary. When shooting night scenes in automatic setting, the picture may become dark. To brighten the picture the digital camcorder will automatically turn the gain value up, and picture noise can develop. In this case, adjust the gain in accordance with the atmosphere of the subject.

(1) Set AUTO LOCK to OFF.
(2) Set AGC/MANUAL under the GAIN dial to MANUAL.
(3) Turn GAIN to adjust the gain.
Using the dial, you can select –3, 0, 3, 6, 9, or PRESET. The gain indicator appears in the viewfinder.
If you turn the dial to PRESET (preset gain), the setting you selected in the menu activates.



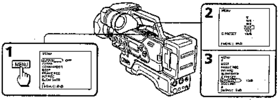
To return to automatic gain mode
Set AGC/MANUAL below the GAIN dial to AGC.

To use the AGC LIMIT function
The AGC LIMIT function prevents the digital camcorder from creating picture noise by controlling excessive automatic gain level. To use this function, set to ON in the menu system.

Adjusting the gain

To adjust the G (gain) PRESET menu item

When you want to choose a gain setting higher than 9, select the appropriate level from the G PRESET menu.
The setting data is set into memory. When you dial another setting, (e.g. 9), then return to PRESET, the previous setting is selected automatically.
(1) Open the cover, then press MENU to display the menu.
(2) Press ∨ or ∧ to select G PRESET, then press EXECUTE.
(3) Press ∨ or ∧ to select a setting, then press EXECUTE.
You can select the following settings: –3, 0, 3, 6, 9, 12, 15, 18 dB.
(4) Press MENU to erase the menu display.

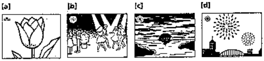


Note on the gain
If you set gain too high, picture noise results.

Adjusting the white balance

White balance is the adjustment to make white subjects look white and to obtain a more natural color balance. You can obtain better results by adjusting the white balance manually when lighting conditions change quickly or when recording outdoors, e.g. neon signs, fireworks.

Selecting the appropriate mode



☁ one-push white balance mode
- Shooting with lighting condition on the subject set and with the white balance set in a particular condition
- Monochromatic subject or background **[a]**

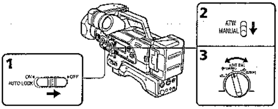
☼ (3200K) indoor mode
- Lighting conditions change quickly **[b]**
- A bright place such as a photography studio
- Under sodium or mercury lamps

✳ (5800K) outdoor mode
- Under a color matching fluorescent lamp
- Recording a sunset/sunrise, just after sunset, just before sunrise **[c]**, neon signs, or fireworks **[d]**

Adjusting the white balance

Adjusting white balance manually

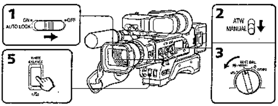
(1) Set AUTO LOCK to OFF.
(2) Set ATW/MANUAL under the WHT BAL dial to MANUAL.
(3) Turn WHT BAL to select a white balance.
Usually select ☼ (3200K) (indoor mode) or ✳ (5800K) (outdoor mode). To fix the white balance by using one-push white balance, select ☁ and see "Locking the white balance setting".



To return to automatic white balance mode
Set ATW/MANUAL below the dial to ATW.

Locking the white balance setting (One-push white balance mode)

When you set the white balance to one-push white balance mode, the setting is locked and maintained even if lighting conditions change. In addition, if the lithium battery is installed, the setting is saved for one hour if you remove the power source.
(1) While in Standby mode, set AUTO LOCK to OFF.
(2) Set ATW/MANUAL under the WHT BAL dial to MANUAL.
(3) Turn WHT BAL to ☁. The ☁ indicator appears in viewfinder.
(4) Shoot a white object, such as paper, fully in the viewfinder.
(5) Press WHITE BALANCE ☁ on the front of the digital camcorder.
The ☁ indicator flashes rapidly. When the white balance has been adjusted and stored in memory, the indicator stops flashing.



Notes on the ☁ indicator in the viewfinder
- The indicator means:
  Slow flashing: white balance is not adjusted
  Fast flashing: white balance is being adjusted (after you pressed WHITE BALANCE ☁)
  Lit steady: white balance has been adjusted.
- If the ☁ indicator keeps flashing even when you press WHITE BALANCE ☁, shoot in automatic white balance mode. Set AUTO LOCK to ON and slide ATW/MANUAL under the WHT BAL dial to ATW.

Notes on white balance
- When you shoot with studio lighting or video lighting, use ☼ (3200K) (indoor) mode.
- When you shoot under fluorescent lighting, use automatic white balance mode.

Shooting when the lighting condition changes
- After the lighting condition changes, readjust the white balance using the WHITE BALANCE ☁ button while the digital camcorder is in Standby mode. The WHITE BALANCE ☁ button does not function during recording.
- If you are adjusting the aperture (iris) and shutter speed manually, then when you move from indoors to outdoors or vice-versa, set AUTO LOCK to ON and then set it to OFF again.
- After you move from indoors to outdoors or vice-versa, or detach the battery to replace it, while shooting in automatic white balance mode, point the digital camcorder at a white subject for about 10 seconds before you start recording.

Using the ND filter

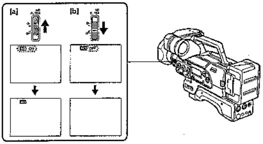
The digital camcorder automatically senses the need for the ND filter, in such a case, ND ON/OFF flashes in the display.
Using the ND filter (to filter down to one-tenth the quantity of light), you can prevent the picture from going out of focus under bright conditions.

When ND ON flashes in the viewfinder

Set ND FILTER to ON [a].
The flashing indicator disappears, and the ND indicator remains.

When ND OFF flashes in the viewfinder

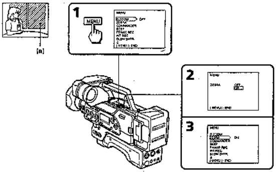
Set ND FILTER to OFF [b].
The indicator disappears.



Using the zebra pattern

You can set the digital camcorder to display a zebra pattern (diagonal stripes) **[a]** in the portion of the picture in the viewfinder where the brightness exceeds a certain level.
The portion of the picture where the zebra pattern appears is an area of high brightness and overexposure. You can check the picture level of a subject by displaying the zebra pattern.
Before you start recording, use the zebra pattern as a guide for adjusting the aperture, gain, and shutter speed.

(1) Open the cover, then press MENU to display the menu in the viewfinder.
(2) Press ⌄ or ⌃ to select ZEBRA, then press EXECUTE.
(3) Press ⌄ or ⌃ to select ON, then press EXECUTE.
(4) Press MENU to erase the menu display.



Note on shooting with the zebra pattern
Even though you see the zebra pattern in the viewfinder, the zebra pattern is not recorded.

Adjusting the recording sound

You can adjust the recording sound level. Use headphones (not supplied) to monitor the sound when you adjust.

Selecting and setting audio mode

You can record sound using channel 1 and channel 2.
Select sound input using the LINE/MIC switch as follows:

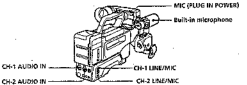
MIC FRONT: When recording from the built-in microphone or external microphone connected to MIC (PLUG IN POWER) jack.
MIC REAR: When recording from on external microphone connected to AUDIO IN CH-1 or/and CH-2.
LINE: When recording from line-in connected to AUDIO IN CH-1 or/and CH-2.

LINE/MIC switches setting and recording sound

LINE/MIC switch position		Microphone type*	Recording sound	
CH-1	CH-2		CH-1	CH-2
MIC FRONT	MIC FRONT	— Stereo Monaural	Built-in mic: L External mic: L External mic: Mono	Built-in mic: R External mic: R External mic: Mono
	LINE	— Stereo Monaural	Built-in mic: L+R External mic: L+R External mic: Mono	XLR LINE
	MIC REAR	— Stereo Monaural	Built-in mic: L+R External mic: L+R External mic: Mono	XLR MIC
MIC REAR	MIC REAR	—	XLR MIC	XLR MIC
	LINE	—	XLR MIC	XLR LINE
	MIC FRONT	— Stereo Monaural	XLR MIC	Built-in mic: L+R External mic: L+R External mic: Mono
LINE	LINE	—	XLR LINE	XLR LINE
	MIC FRONT	— Stereo Monaural	XLR LINE	Built-in mic: L+R External mic: L+R External mic: Mono
	MIC REAR	—	XLR LINE	XLR MIC

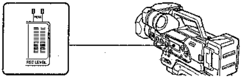
* External microphone connected to MIC (PLUG IN POWER) jack. This "—" means no connection.

Notes on recording
- Be sure to set LINE/MIC setting properly, otherwise no sound will be recorded.
- When nothing is connected to the XLR connector and you set the LINE/MIC switch to MIC REAR, a noise may occur.
- When both CH-1 and CH-2 LINE/MIC switches are set to FRONT, adjust the sound level using the REC LEVEL dial and switch for CH-1 only.



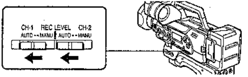
Checking the recording level

Use the level indicator in the display window.
If the input level is excessive, the PEAK indicator lights. If the PEAK indicator remains lit, adjust the recording sound manually.



Adjusting the recording level automatically

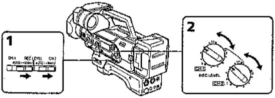
Set REC LEVEL to AUTO.



Adjusting the recording level manually

(1) Set the REC LEVEL switch to MANU.
(2) Turn the REC LEVEL dials to adjust the sound level so that the PEAK indicator does not light up. You can adjust the level of each channel separately.

We recommend using headphones (not supplied) to monitor the sound when you adjust.
Select the sound you want to monitor (CH-1, CH-2 or MIX) using the AUDIO MONITOR switch.



Adjusting the recording sound

To attenuate the recording level

Attenuate the recording level when recording very loud sounds.

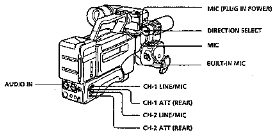
- When using the built-in microphone or external microphone.
  Set the MIC switch to ATT. Normally set off (green position).
- When connecting an external microphone to AUDIO IN (CH-1/CH-2) input connector.
  Set ATT (REAR) to ON.

To reduce wind noise of the built-in microphone

If there is a loud wind, set the BUILT-IN MIC switch to WIND. Note that low frequency input signal will weaken.

To change the directionality of the built-in microphone

Set DIRECTION SELECT to the desired position (0°/90°/120°).
When set to 0° the sound is in monaural.

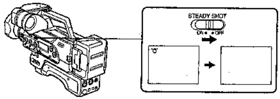


Releasing the STEADY SHOT function

When you shoot, the ◁▷ indicator appears in the viewfinder. This indicates that the Steady Shot function is working and the digital camcorder compensates for camera-shake.

When you attach the digital camcorder to a tripod, you need not worry about camera-shake.
Release the Steady Shot function.

Set STEADY SHOT to OFF.



To activate the Steady Shot function again

Set STEADY SHOT to ON.

Note on the Steady Shot function

The Steady Shot function will not correct excessive camera-shake.

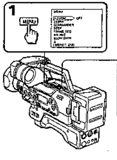
Making a custom preset

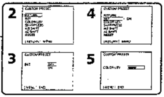
Use this menu setting to achieve consistent picture quality. This feature lets you customize the picture quality.

Item	Adjusts	Adjustment value
COLOR LEV	Color intensity	Decreases color intensity ←→ Increases color intensity
SHARPNESS	Sharpness	Softer ←→ Sharper
WB SHIFT	White balance	Bluish ←→ Reddish
AE SHIFT*	Brightness	Darker ←→ Brighter

* When the aperture, shutter speed and gain are set manually, AE SHIFT level does not change.

(1) Open the cover, then press MENU to display the menu in the viewfinder.
(2) Press ⌄ or ⌃ to select CUSTOM, then press EXECUTE.
The custom preset menu appears.
(3) Press ⌄ to select SET, then press EXECUTE.
(4) Press ⌄ to select ON, then press EXECUTE.
(5) Press ⌄ or ⌃ to select the desired item, then press EXECUTE.
(6) Press ⌄ or ⌃ to adjust the selected mode, then press EXECUTE.
(7) Press MENU to erase the menu display and display CP in the viewfinder.
To perform other menu settings, press ⌃ to select RETURN, then press EXECUTE.





To turn off custom preset

(1) While the digital camcorder is in Standby mode, press MENU.
(2) Press ⌄ or ⌃ to select CUSTOM, then press EXECUTE.
(3) Press ⌄ to select SET, then press EXECUTE.
(4) Press ⌄ to select OFF, then press EXECUTE.
CP goes off in the viewfinder.
(5) Press MENU to erase the menu display.

To turn on custom preset again

(1) While the digital camcorder is in Standby mode, press MENU.
(2) Press ⌄ or ⌃ to select CUSTOM, then press EXECUTE.
(3) Press ⌄ to select SET, then press EXECUTE.
(4) Press ⌄ to select ON, then press EXECUTE.
(5) Press MENU to display CP in the viewfinder.

To restore the standard settings

(1) While the digital camcorder is in Standby mode, press MENU.
(2) Press ⌄ or ⌃ to select CUSTOM, then press EXECUTE.
(3) Press ⌄ to select RESET, then press EXECUTE.
FINISHED appears in the viewfinder
(4) Press MENU to erase the menu display.

To check the custom preset settings

You can display and check the custom preset settings in the viewfinder while recording.
Press CP CHECK on the front of the digital camcorder while the digital camcorder is in Standby mode or recording mode.
The custom preset settings are displayed in the viewfinder.
Press CP CHECK again to make the display disappear.

Note on custom preset

You can turn on custom preset when in automatic mode and also when in manual mode.

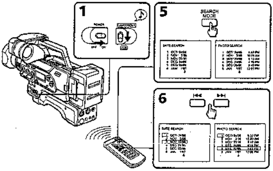
Searching the recorded picture

When you use a cassette memory-mounted DVCAM cassette (C|𝓘| logo*) which can store the recorded date and time, etc., you can search the recorded picture with the date or time using the Remote Commander (**Cassette memory search**). You can also search the photo-recorded pictures only, or the recorded picture in the backward and forward direction from the present position without cassette memory.

* C|𝓘| is a trademark.

Searching the recorded picture with the date or time – Cassette memory search

(1) Set the POWER switch to ON, then set CAMCORDER/VTR to VTR.
(2) Open the cover, press MENU to display the menu in the viewfinder.
(3) Set CM SEARCH to ON in the menu system.
(4) Press MENU to erase the menu display.
(5) Press SEARCH MODE on the Remote Commander to select date search (search with the date) or photo search (search the photo recorded-pictures only).
(6) On the Remote Commander, press ▶▶| to search forward or |◀◀ to search backward.



Notes on cassette memory search
- You can search up to 24 days for date search and 179 pictures for photo search when you use the 16k-bit cassette memory.
- Make sure that the lithium battery is installed if using cassette memory.

Searching the recorded picture without using cassette memory

(1) Set the POWER switch to ON, then set CAMCORDER/VTR to VTR.
(2) Open the cover, press MENU to display the menu in the viewfinder.
(3) Set CM SEARCH to OFF in the menu system.
(4) Press MENU to erase the menu display.
(5) Press SEARCH MODE on the Remote Commander to select date search (search with the date) or photo search (search the photo-recorded pictures only).
(6) On the Remote Commander, press ▶▶| to search forward or |◀◀ to search backward.
Each time you press ▶▶| or |◀◀, the digital camcorder searches for the next scene.

To stop searching
Press ■.

If your tape has blank portions between pictures
The digital camcorder may not search for the recorded picture or data may not be stored.

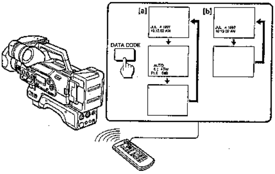
Notes on searching
- The digital camcorder may not search correctly if the beginning of the search portion is too close to the tape head position.
- When you use date search, the digital camcorder plays back the search picture, and when you use photo search, the digital camcorder enters playback pause when it finds the point it was searching for.

Displaying recording data

You can display the date and time as well as system data and when you recorded (**Data Code**), on the TV during playback or editing. The Data Code is also displayed in the viewfinder and the display window.

Press DATA CODE on the Remote Commander while playing back. Each time you press DATA CODE, the indicator cycles in the viewfinder as follows:
When you select DATE/CAM from the menu **[a]**:
recorded date and time → various settings → no indication
When you select DATE from the menu **[b]**:
recorded date and time → no indication

Press DATA CODE repeatedly to erase the display.



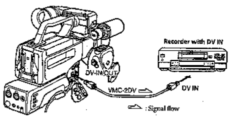
When bars (--:--:--) appear
- A blank portion of the tape is being played back.
- The tape was recorded by a digital camcorder without the Data Code function.
- The tape was recorded by a digital camcorder without having date and time set.

Editing onto another tape

You can create your own video programs by editing with any other VCRs that have DV IN or video/audio inputs. Note that cassette memory data is not recorded on the edited tape.
You can edit with little deterioration of picture and sound quality when using the DV connecting cable (not supplied). Data code of the source tape is dubbed on the edited tape at the same time.

Before editing

Connect DV IN/OUT of the digital camcorder and the DV IN (or DV IN/OUT) jack of the VCR using the VMC-2DV DV connecting cable (not supplied).
You can use this digital camcorder either as a player or as a recorder without changing the connection. The direction of signal flow changes automatically.
When this digital camcorder is used as a recorder, the "DV IN" appears in the viewfinder.



Notes on editing using the DV connecting cable
- When this digital camcorder is used as a recorder, the player's format must be DVCAM.
- Depending on signal conditions, DVCAM-formatted tapes may not be able to edit using the DV connecting cable. Edit using the supplied A/V connecting cable in this case.
- You can connect one VCR only.
- If you edit playback pause picture, the edited picture becomes rough.
- Connect a LANC cable (not supplied) to control the playback VCR from the recording VCR.

To connect the VCR without DV IN jack
Connect the digital camcorder to the VCR using the supplied A/V connecting cable.
Set the TV/VCR input selector on the VCR to LINE.
If your VCR is a monaural type, connect only the white plug for audio on both the digital camcorder and the VCR. With this connection, the sound is monaural.

Editing onto another tape

Starting editing

(1) Set the POWER switch to ON and then set CAMCORDER/VTR to VTR.
(2) Insert a blank tape (or a tape you want to record over) into the recording VCR. Then insert your recorded tape into the digital camcorder.
(3) Play back the recorded tape on the digital camcorder until you locate the point where you want to start editing. Then set the digital camcorder to playback pause mode.
(4) Set the recording VCR to recording pause mode.
(5) Press ▮▮ on the digital camcorder and VCR simultaneously to start editing.
To edit more scenes, repeat steps 3 to 5.

To stop editing

Press □ on the digital camcorder and VCR.

Note on editing when using the A/V connecting cable

Press DISPLAY on the Remote Commander while editing onto another tape to turn off the display indicators. Otherwise, the indicators will be recorded on the tape.

Note on Fine Synchro Edit

If you connect a video deck that has the Fine Synchro Edit feature to the ⏻ LANC jack of the digital camcorder using a LANC cable (not supplied), the edit will be even more precise.

Audio dubbing

If you recorded in Fs 32k (12 bit) recording mode, you can add stereo narration or music to the recording.

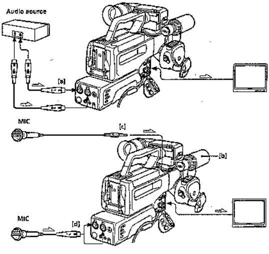
Making connections

To use additional audio line in [a]

Connect the LINE OUT jacks of a audio source to the rear AUDIO IN jacks of the digital camcorder using an audio connecting cord with the XLR connector (not supplied) and then set LINE/MIC to LINE.

To use an additional microphone

- Use the built-in microphone **[b]** or connect an external microphone (not supplied) [c] to the MIC (PLUG IN POWER) jack, then set LINE/MIC to MIC FRONT.
- Use an external microphone (not supplied) with the XLR connector **[d]**, connect the rear AUDIO IN jack of the digital camcorder, then set LINE/MIC to MIC REAR.

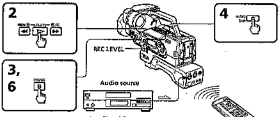


⇨ : Signal flow

Audio dubbing

Recording

(1) Set the POWER switch to ON and then set CAMCORDER/VTR to VTR.
(2) Open the cover, press ▷, then ▶▶ or ◀◀, to search for the start and end points of the recording.
(3) Press ▮▮ at the start point of the recording.
(4) Press AUDIO DUB ⏏.
(5) Adjust the recording volume.
(6) Press ▮▮.
Audio dubbing begins.
If you are using an stereo input, press ▮▮ on the stereo at the same time.



⇨ : Signal flow

To stop recording

Press □.

To pause recording

Press ▮▮. To start recording again, press ▮▮.

To adjust the volume

If you set REC LEVEL to AUTO, the volume is automatically adjusted.
To adjust the volume manually, set REC LEVEL to MANU, and turn the REC LEVEL dials.

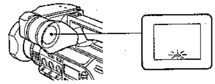
Note on audio dubbing

You cannot operate audio dubbing on DV-formatted tapes. Depending on signal conditions, you may not be able to operate audio dubbing even on DVCAM-formatted tapes.

Additional information

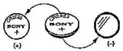
Changing the lithium battery in the digital camcorder

Your digital camcorder is supplied with a lithium battery installed. When the battery becomes weak or dead, the ⚠ indicator flashes in the viewfinder for about 5 seconds when you set the digital camcorder to CAMCORDER mode with the POWER switch ON. In this case, replace **the battery with a Sony CR2025 or Duracell DL-2025 lithium battery. Use of any other battery may present a risk of fire or explosion.** The lithium battery for the digital camcorder lasts for about 1 year under normal operation. (The lithium battery that comes installed at the factory may not last 1 year.)



Notes on lithium battery

- **Keep the lithium battery out of the reach of children.** **Should the battery be swallowed, immediately consult a doctor.**
- Wipe the battery with a dry cloth to assure a good contact.
- Do not hold the battery with metallic tweezers, otherwise a short-circuit may occur.
- The lithium battery has positive (+) side and negative (–) side as illustrated. **Be sure to insert the lithium battery with the positive side facing out.**



WARNING

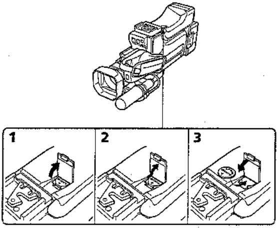
The battery may explode if mistreated. Do not recharge, disassemble, or dispose of in fire.

Changing the lithium battery in the digital camcorder

Changing the lithium battery

When replacing the lithium battery, keep the battery pack or other power source attached. Otherwise, you will need to reset the date, time and other items in the menu system retained by the lithium battery.

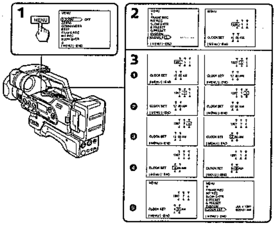
(1) Open the lid of the lithium battery compartment.
(2) Push the lithium battery down once and pull it out from the holder.
(3) Install the lithium battery with the positive (+) side facing out. Close the lid.



Resetting the date and time

You can reset the date and time in the menu system.

(1) Open the cover, then press MENU to display the menu.
(2) Press ⌄ to select CLOCK SET, then press EXECUTE.
(3) Press ⌄ or ⌃ to select the desired year, then press EXECUTE. Set the day, month, hour, and minutes by pressing ⌄ / ⌃ and then pressing EXECUTE.
(4) Press MENU to erase the menu display.



To correct the date and time setting

Repeat the above procedure.

To check the preset date and time

The date and time are shown in the display window. Which can only be seen when the power is on.

The year changes as follows:

1996 ↔ 1997 ← ···· → 2026

Note on the time indicator

The internal clock of this digital camcorder operates on a 12-hour cycle.

- 12:00 AM stands for midnight.
- 12:00 PM stands for noon.

Compatibility of DVCAM and DV formats

DVCAM format is developed as a more reliable and higher end format than consumer DV format. Here are explained about DVCAM and DV formats: the differences, compatibility, and limitations on editing.

Differences between DVCAM and DV formats

Item	DVCAM	DV
Track pitch	15 µm	10 µm
Audio sampling frequency	12 bit: 32 kHz 16 bit: 48 kHz	12 bit: 32 kHz 16 bit: 32 kHz, 44.1 kHz, 48 kHz
Audio recording mode [1]	Lock mode	Unlock mode
Time code	Drop frame system or Non-drop frame system (SMPTE time code)	Drop frame system only

[1] There are two modes for audio recording, lock mode and unlock mode. In lock mode, the sampling frequencies of audio and video are synchronized. In unlock mode, which consumer DV format adopts, the two sampling frequencies are independent. Therefore, lock mode is more effective than unlock mode in digital processing and smooth transition during audio editing.

DVCAM and DV cassettes

Both DVCAM and DV cassettes can be used on DVCAM or DV video equipment. The recording format of picture is defined according to recorder's format as described below.

Recorder's format	Cassette's format	Recording format
DVCAM	DVCAM	DVCAM
	DV	DVCAM
DV	DVCAM	DV
	DV	DV

This digital camcorder complies with DVCAM format. Though DV cassettes can be used for recording, we recommend you to use DVCAM cassettes to get the most out of high reliability of DVCAM format. The recording time of DV cassettes is 2/3 shorter than that indicated on the DV cassettes.

Compatibility on playback

Some tapes cannot be played back on DVCAM or DV video equipment.

Tape	On DV video equipment	On DVCAM video equipment
DV-formatted	Can be played back	Can be played back (only when recorded in SP mode)
DVCAM-formatted	Cannot be played back [1]	Can be played back

[1] Some DV video equipment may be able to play back a DVCAM-formatted tape. Even if the tape is played back, contents of the playback cannot be guaranteed.

Compatibility on editing using DV connectors

When this digital camcorder is connected to other DVCAM or DV video equipment using DV connectors, the recording format of edited tapes is defined according to recorder's format as described below.

Source tape	Player's format	Recorder's format	Recording format
DVCAM-formatted [1]	DVCAM	DVCAM	DVCAM
DVCAM-formatted	DVCAM	DV	DV [2]
DVCAM-formatted	DV [3]	DVCAM	DVCAM [5]
DVCAM-formatted	DV [3]	DV	DV [2]
DV-formatted	DVCAM	DVCAM	Not editable
DV-formatted [4]	DVCAM	DV	DV
DV-formatted	DV	DVCAM	Not editable
DV-formatted	DV	DV	DV

[1] Depending on signal conditions of the source tape, you may not be able to edit the tape using the DV connectors.
[2] Audio recording mode of the edited tape is lock mode.
[3] Some DV video equipment may be able to play back a DVCAM-formatted tape. Even if the tape is played back, contents of the playback cannot be guaranteed.
[4] DV-formatted tapes recorded in SP mode only can be used as source tapes.
[5] Depending on model of video equipment, you may not be able to edit.

Limitations on editing

You will find the following limitations when editing.

- Due to the difference of a track pitch, you cannot record or edit on DV-formatted tapes using DVCAM video equipment.
- Depending on signal conditions, you may not be able to record or edit on DVCAM-formatted tapes.

In these cases, do the following:

- Edit using audio/video jacks.
- Dub a DV-formatted tape using audio/video jacks, then use the dubbed tape as a source tape.

Notes on video cassettes

Usable cassettes

We recommend using a standard DVCAM cassette
You can get the highest quality pictures with this digital camcorder using a standard DVCAM cassette which is the highest quality cassette.
You may not get as good a quality with lesser cassettes.

You cannot use any other DVCAM, mini DVCAM, mini DV, 8 mm, Hi8 Hi8, VHS VHS, S-VHS S-VHS, VHSC VHSC, S-VHSC S-VHSC, Betamax or ED Betamax type cassettes.

Copyright signal

When you play back
Using this digital camcorder, you cannot play back a tape that has recorded copyright control signals for copyright protection of software. "COPY INHIBIT" appears on the monitor or in the viewfinder if you try to play back such a tape. This digital camcorder does not record copyright control signals on the tape when it records.

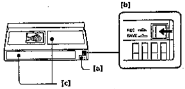
Notes on the DVCAM cassette

Gold-plated connector of the standard DVCAM cassette
If the gold-plated connector of the DVCAM cassette gets dirty or dust sticks to the connector, the digital camcorder may malfunction when using the cassette memory functions such as cassette memory search.
Clean the connector with the swab once every ten times you eject the cassette [a].

To prevent accidental erasure
Slide the protect tab on the cassette so that the red portion is visible [b].

When affixing a label on the standard DVCAM cassette
Be sure to affix a label on only the location illustrated below so as not to cause malfunction of the digital camcorder [c].

After using the standard DVCAM cassette
After use, please be sure to rewind the tape completely (to prevent picture and sound distortion).
~~Return to its case and store in an upright position.~~



Tips for using the battery pack

This section shows you how you can get the most out of your battery pack.

Preparing the battery pack

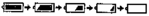
Always carry additional batteries
Have sufficient battery pack power to do 2 to 3 times as much recording as you have planned.

Battery life is shorter in a cold environment
Battery efficiency is decreased, and the battery will be used up more quickly, if you are recording in a cold environment.

To save battery power
Turn STANDBY down to LOCK when not recording to save battery power.
A smooth transition between scenes can be made even if recording is stopped and started again. While you are positioning the subject, selecting an angle, or looking through the viewfinder lens, the lens moves automatically and the battery is used. The battery is also used when a tape is inserted or removed.

When to replace the battery pack

While you are using your digital camcorder, the remaining battery indicator in the viewfinder decreases gradually as battery power is used up.



When the remaining battery indicator reaches the lowest point, the ⊏ indicator may appear and start flashing in the viewfinder.
When the ⊏ indicator in the viewfinder changes from slow flashing to rapid flashing while you are recording, set the POWER switch to OFF on the digital camcorder and replace the battery pack. Leave the tape in the digital camcorder to obtain a smooth transition between scenes after the battery pack has been replaced.

Notes on the rechargeable battery pack

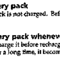
Caution
Never leave the battery pack in temperatures above 140°F (60°C), such as in a car parked in the sun or under direct sunlight.

The battery pack heats up
During charging or recording, the battery pack heats up. This is caused by energy that has been generated and a chemical change that has occurred inside the battery pack. This is not cause for concern and is normal.

Battery pack care
- **Remove the battery pack form the digital camcorder after using it,** and keep it in a cool place. When the battery pack is installed to the digital camcorder, a small amount of current flows to the digital camcorder even if the POWER switch is set to OFF. This shortens battery life.
- The battery pack is always discharging even when it is not in use after charging. Therefore, you should charge the battery pack right before using the digital camcorder.

Tips for using the battery pack

The switch on the battery pack
This switch is provided so that you can mark the charged battery pack. Set the switch to the "green mark" position when charging is completed. (When removed from the charging adaptor, the switch exposes the green mark. When removed from your digital camcorder, no mark is indicated.)



The life of the battery pack
If the battery indicator flashes rapidly just after turning on the digital camcorder with a fully charged battery pack, the battery pack should be replaced with a new fully charged one.

Charging temperature
You should charge batteries at temperatures from 50°F to 86°F (from 10°C to 30°C). Lower temperatures require a longer charging time.

Notes on charging

A brand-new battery pack
A brand-new battery pack is not charged. Before using the battery pack, charge it completely.

Recharge the battery pack whenever you like
You do not have to discharge it before recharging. If you charged the battery pack fully but you did not use it for a long time, it becomes discharged. Then recharge the battery pack before use.

Notes on the terminals

If the terminals (metal parts on the back) are not clean, the battery charge duration will be shortened.
When the terminals are not clean or when the battery pack has not been used for a long time, repeatedly install and remove the battery pack a few times. This improves the contact condition. Also, wipe the + and – terminals with a soft dry cloth or paper.

Be sure to observe the following
- Keep the battery pack away from fire.
- Keep the battery pack dry.
- Do not open nor try to disassemble the battery pack.
- Do not expose the battery pack to any mechanical shock.

Maintenance information and precautions

Moisture condensation

If the digital camcorder is brought directly from a cold place to a warm place, moisture may condense inside the digital camcorder, on the surface of the tape, or on the lens. In this condition, the tape may stick to the head drum and be damaged or the unit may not operate correctly. To prevent possible damage under these circumstances, the digital camcorder is furnished with moisture sensors. Please, take the following precautions.

Inside the digital camcorder
If there is moisture inside the digital camcorder, the beep sounds and the ▣ indicator flashes. If this happens, none of the functions except cassette ejection will work. Open the cassette compartment, turn off the digital camcorder, and leave it about 1 hour. When ≜ indicator flashes at the same time, the cassette is inserted in the digital camcorder. Eject the cassette, turn off the digital camcorder, and leave also the cassette about 1 hour. You can continue use of digital camcorder when the ▣ indicator does not appear when the power is turned on again.

On the lens
If moisture condenses on the lens, no indicator appears, but the picture becomes dim. Turn off the power and do not use the digital camcorder for about 1 hour.

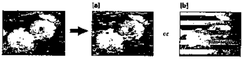
How to prevent moisture condensation
When bringing the digital camcorder from a cold place to a warm place, put the digital camcorder in a plastic bag and allow it to adapt to room conditions over a period of time.
(1) Be sure to tightly seal the plastic bag containing the digital camcorder.
(2) Remove the bag when the air temperature inside it has reached the temperature surrounding it (after about 1 hour).

Maintenance information and precautions

Video head cleaning

To ensure normal recording and clear pictures, clean the video heads.
The video heads may be dirty when:

- mosaic-pattern noise appears on the playback picture
- playback pictures do not move
- playback pictures are hardly visible
- the playback picture does not appear
- the ⊗ indicator flashes in the viewfinder.

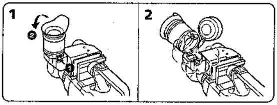


If the picture becomes like **[a]** or **[b]**, clean the video heads with the Sony DV-12CL cleaning cassette (not supplied). After checking the picture, if it is still "noisy", repeat the cleaning. (Do not repeat cleaning more than 5 times.)

Note
If the DV-12CL cleaning cassette (not supplied) is not available in your area, consult your nearest Sony dealer.

Removing dust from inside the viewfinder

(1) While pressing PUSH, open the viewfinder.
(2) Clean the surface with a commercially available blower.
(3) Close the viewfinder until it clicks.



Precautions

Digital camcorder operation

- Operate the digital camcorder on 7.2 V (battery pack) or 8.4 V (AC power adaptor).
- For DC or AC operation, use the accessories recommended in this manual.
- Should any solid object or liquid get inside the casing, unplug the digital camcorder and have it checked by a Sony dealer before operating it any further.
- Avoid rough handling or mechanical shock. Be particularly careful of the lens.
- Keep the POWER switch set to OFF when not using the digital camcorder.
- Do not wrap up the digital camcorder and operate it since heat may build up internally.
- Keep the digital camcorder away from strong magnetic fields or mechanical vibration.

On Handling Tapes

- Do not insert anything into the small holes on the cassette.
- Do not open the tape protect cover or touch the tape.
- Avoid touching or damaging the terminals.
  To remove dust, clean the terminals with a soft cloth.

Digital camcorder care

- When the digital camcorder is not to be used for a long time, disconnect the power source and remove the tape. Periodically turn on the power, operate the camera and player sections and play back a tape for about 3 minutes.
- Clean the lens with a soft brush to remove dust. If there are fingerprints on it, remove them with a soft cloth.
- Clean the digital camcorder body with a dry soft cloth, or a soft cloth lightly moistened with a mild detergent solution. Do not use any type of solvent which may damage the finish.

AC power adaptor

Charging

- Use only a lithium ion type battery pack.
- Place the battery pack on a flat surface without vibration during charging.
- The battery pack will get hot during charging. This is normal.

Others

- Unplug the unit from the wall outlet when not in use for a long time. To disconnect the power cord, pull it out by the plug. Never pull the power cord itself.
- Do not operate the unit with a damaged cord or if the unit has been dropped or damaged.
- Do not bend the power cord forcibly, or put a heavy object on it. This will damage the cord and may cause a fire or electrical shock.
- Be sure that nothing metallic comes into contact with the metal parts of the connecting plate. If this happens, a short may occur and the unit may be damaged.
- Always keep the metal contacts clean.
- Do not disassemble the unit.
- Do not apply mechanical shock or drop the unit.
- While the unit is in use, particularly during charging, keep it away from AM receivers and video equipment because it will disturb AM reception and video operation.
- The unit becomes warm while in use. This is normal.
- Do not place the unit in locations that are:
  - Extremely hot or cold
  - Dusty or dirty
  - Very humid
  - Vibrating

If any difficulty should arise, unplug the unit and contact your nearest Sony dealer.

Using your digital camcorder abroad

Each country has its own electric and TV color systems. Before using your digital camcorder abroad, check the following points.

Power sources

You can use your digital camcorder in any country with the AC-V615 AC power adaptor within 100 V to 240 V AC, 50/60 Hz.

Difference in color systems

This digital camcorder is an NTSC system based digital camcorder. If you want to view the playback picture on a monitor, it must be an NTSC system based monitor.
Check the following list.

NTSC system countries
Bahama Islands, Bolivia, Canada, Central America, Chile, Colombia, Ecuador, Jamaica, Japan, Korea, Mexico, Peru, Surinam, Taiwan, the Philippines, the U.S.A., Venezuela, etc.

PAL system countries
Australia, Austria, Belgium, China, Denmark, Finland, Germany, Great Britain, Holland, Hong Kong, Italy, Kuwait, Malaysia, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, Thailand, etc.

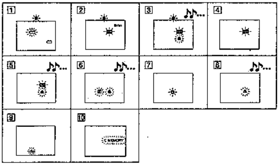
PAL-M system country
Brazil

PAL-N system countries
Argentina, Paraguay, Uruguay

SECAM system countries
Bulgaria, Czech Republic, France, Guyana, Hungary, Iran, Iraq, Monaco, Poland, Russia, Slovak Republic, Ukraine, etc.

Warning indicators

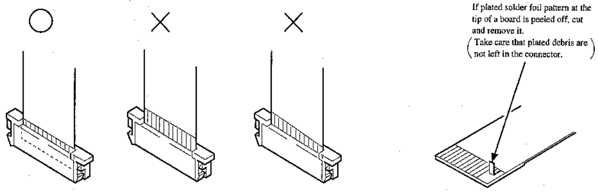
If indicators flash in the viewfinder, or a caution lamp on the digital camcorder flashes, check the following:
♪: you can hear the beep sound when the BEEP is set to ON.



1 **The battery is weak or dead.**
Slow flashing: The battery is weak.
Fast flashing: The battery is dead.
2 **The tape is near the end.**
The flashing is slow.
3 **The tape has run out.**
The flashing becomes rapid.
4 **No tape has been inserted.**
5 **The tab on the tape is out (red).**
6 **Moisture condensation has occurred.**
7 **The video heads may be contaminated.**
~~This indicator appears only in the viewfinder.~~
8 **Some other trouble has occurred.**
Disconnect the power source and contact your Sony dealer or local authorized facility.
9 **The lithium battery is weak or is not installed.**
10 **Updating the cassette memory data. Wait until C MEMORY disappears.**
The cassette compartment automatically lifts up and opens after the indicator disappears.

SECTION 2
DISASSEMBLY

PRECAUTIONS ON REPAIR

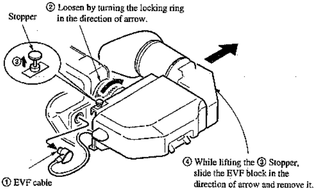


If plated solder foil pattern at the tip of a board is peeled off, cut and remove it.
(Take care that plated debris are not left in the connector.)

Note : Confirm that the terminal ends of the flat cable and flexible board are not broken or folded. Also be careful that connections to the connectors are firmly done as deep as they can go without slanting.

NOTE : Follow the disassembly procedure in the numerical order given.

2-1. REMOVAL OF EVF BLOCK

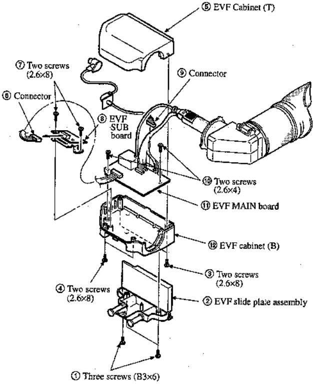


② Loosen by turning the locking ring in the direction of arrow.

① EVF cable

④ While lifting the ③ Stopper, slide the EVF block in the direction of arrow and remove it.

2-2. REMOVAL OF EVF CABINET



⑤ EVF Cabinet (T)

⑦ Two screws (2.6×8)

⑨ Connector

⑥ Connector

⑧ EVF SUB board

⑩ Two screws (2.6×4)

⑪ EVF MAIN board

⑫ EVF cabinet (B)

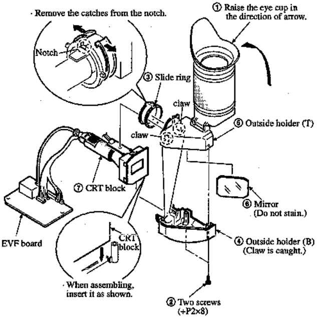
③ Two screws (2.6×8)

④ Two screws (2.6×8)

② EVF slide plate assembly

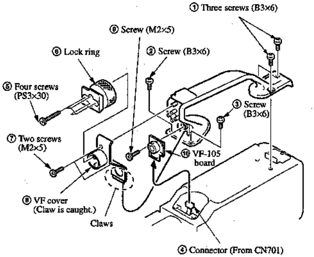
① Three screws (B3×6)

2-3. REMOVAL OF CRT BLOCK



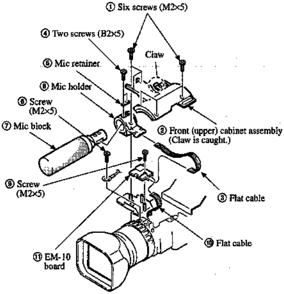
· Remove the catches from the notch.
Notch
① Raise the eye cup in the direction of arrow.
③ Slide ring
claw
claw
⑤ Outside holder (T)
⑦ CRT block
⑥ Mirror (Do not stain.)
EVF board
CRT block
④ Outside holder (B) (Claw is caught.)
· When assembling, insert it as shown.
② Two screws (+P2×8)

2-4. REMOVAL OF VF-105 BOARD



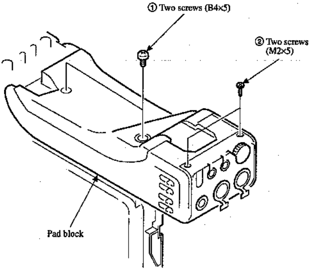
① Three screws (B3×6)
⑨ Screw (M2×5)
⑥ Lock ring
② Screw (B3×6)
⑤ Four screws (PS3×30)
③ Screw (B3×6)
⑦ Two screws (M2×5)
⑩ VF-105 board
⑧ VF cover (Claw is caught.)
Claws
④ Connector (From CN701)

2-5. REMOVAL OF EM-10 BOARD



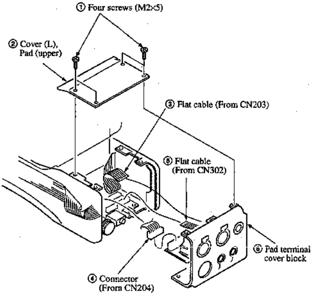
① Six screws (M2×5)
④ Two screws (B2×5)
Claw
⑤ Mic retainer
⑧ Mic holder
⑥ Screw (M2×5)
⑦ Mic block
② Front (upper) cabinet assembly (Claw is caught.)
⑨ Screw (M2×5)
③ Flat cable
⑩ Flat cable
⑪ EM-10 board

2-6. REMOVAL OF PAD TERMINAL (1)

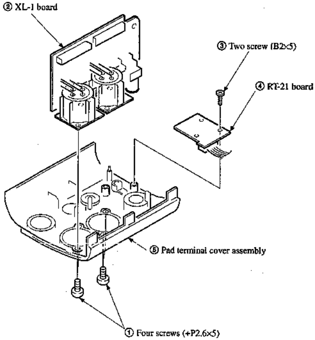


① Two screws (B4×5)
② Two screws (M2×5)
Pad block

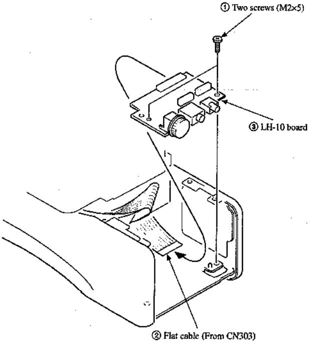
2-7. REMOVAL OF PAD TERMINAL (2)


① Four screws (M2×5)
② Cover (L),
Pad (upper)
③ Flat cable (From CN203)
⑤ Flat cable
(From CN302)
⑥ Pad terminal
cover block
④ Connector
(From CN204)

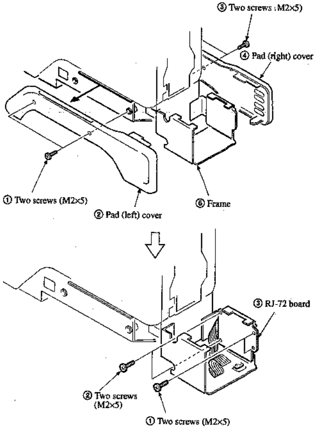
2-8. REMOVAL OF XL-1, RT-21, BOARD AND PAD TERMINAL (3)


② XL-1 board
③ Two screw (B2×5)
④ RT-21 board
⑤ Pad terminal cover assembly
① Four screws (+P2.6×5)

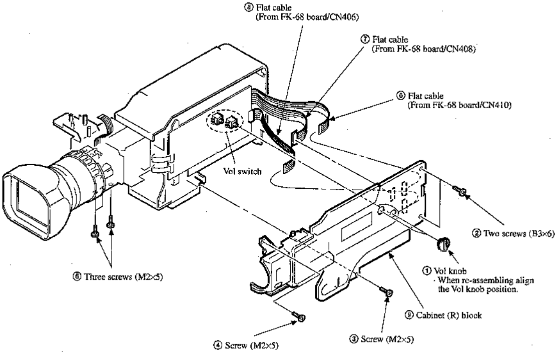
2-9. REMOVAL OF LH-10 BOARD


① Two screws (M2×5)
③ LH-10 board
② Flat cable (From CN303)

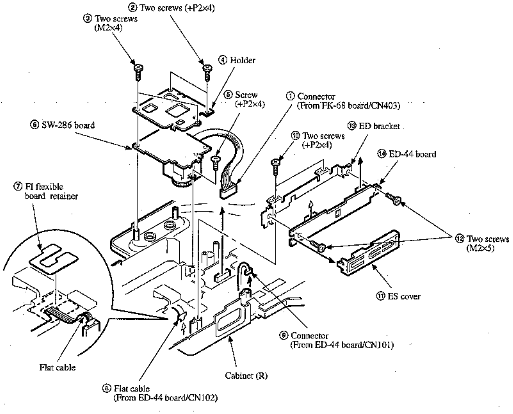
2-10. REMOVAL OF PAD FRAME AND RJ-72 BOARD


③ Two screws (M2×5)
④ Pad (right) cover
① Two screws (M2×5)
② Pad (left) cover
⑥ Frame
⑤ RJ-72 board
② Two screws
(M2×5)
① Two screws (M2×5)

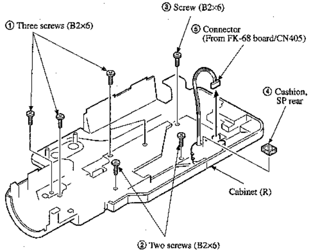
2-11. REMOVAL OF CABINET (R) BLOCK


⑧ Flat cable
(From FK-68 board/CN406)
⑦ Flat cable
(From FK-68 board/CN408)
⑥ Flat cable
(From FK-68 board/CN410)
Vol switch
② Two screws (B3×6)
⑤ Three screws (M2×5)
① Vol knob
· When re-assembling align the Vol knob position.
⑨ Cabinet (R) block
④ Screw (M2×5)
③ Screw (M2×5)

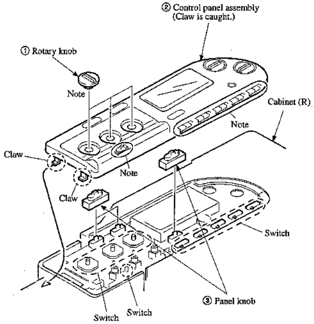
2-12. REMOVAL OF SW-286 AND ED-44 BOARDS


② Two screws (+P2×4)
③ Two screws
(M2×4)
④ Holder
⑤ Screw
(+P2×4)
① Connector
(From FK-68 board/CN403)
⑥ SW-286 board
⑬ ED bracket
⑩ Two screws
(+P2×4)
⑭ ED-44 board
⑦ Fl flexible
board retainer
⑫ Two screws
(M2×5)
⑪ ES cover
⑨ Connector
(From ED-44 board/CN101)
Flat cable
Cabinet (R)
⑧ Flat cable
(From ED-44 board/CN102)

2-13. REMOVAL OF CONTROL PANEL ASSEMBLY (1)

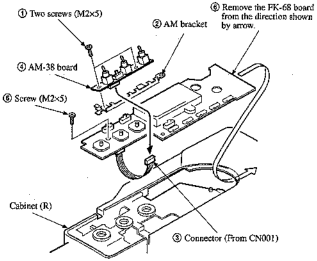

③ Screw (B2×6)
① Three screws (B2×6)
⑤ Connector
(From FK-68 board/CN405)
④ Cushion,
SP rear
Cabinet (R)
② Two screws (B2×6)

2-14. REMOVAL OF CONTROL PANEL ASSEMBLY (2)

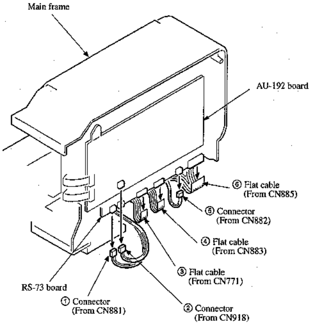

② Control panel assembly
(Claw is caught.)
① Rotary knob
Note
Cabinet (R)
Note
Claw
Note
Claw
Switch
③ Panel knob
Switch
Switch

Note :	When re-assembling, align the switches to the correct positions.

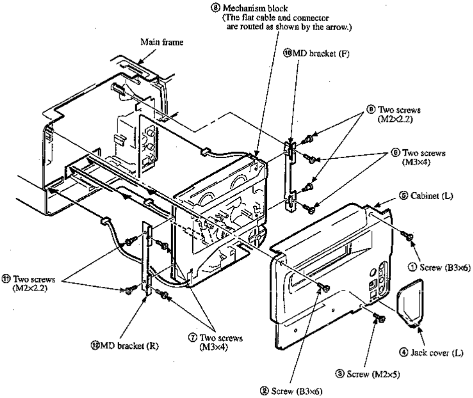
2-15. REMOVAL OF AM-38 AND FK-68 BOARDS


① Two screws (M2×5)
⑥ Remove the FK-68 board
from the direction shown
by arrow.
② AM bracket
④ AM-38 board
⑥ Screw (M2×5)
Cabinet (R)
③ Connector (From CN001)

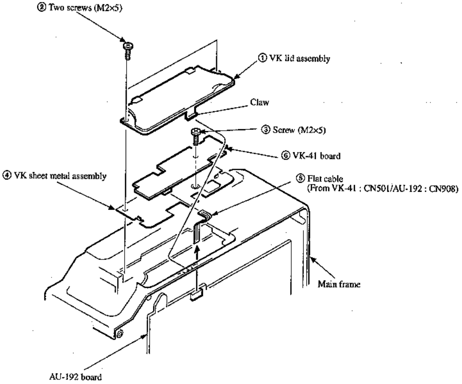
2-16. REMOVAL OF MECHANISM BLOCK (1)


Main frame
AU-192 board
⑥ Flat cable
(From CN885)
⑤ Connector
(From CN882)
④ Flat cable
(From CN883)
③ Flat cable
(From CN771)
RS-73 board
① Connector
(From CN881)
② Connector
(From CN918)

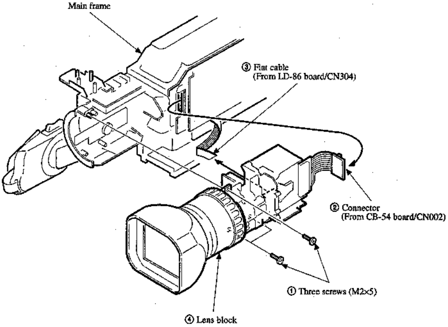
2-17. REMOVAL OF MECHANISM BLOCK (2)


⑧ Mechanism block
(The flat cable and connector
are routed as shown by the arrow.)
Main frame
⑩MD bracket (F)
⑨ Two screws
(M2×2.2)
⑥ Two screws
(M3×4)
⑤ Cabinet (L)
① Screw (B3×6)
⑪ Two screws
(M2×2.2)
⑫MD bracket (R)
⑦ Two screws
(M3×4)
④ Jack cover (L)
③ Screw (M2×5)
② Screw (B3×6)

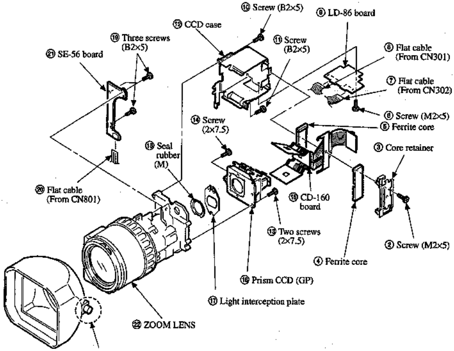
2-18. REMOVAL OF VK-41 BOARD


② Two screws (M2×5)
① VK lid assembly
Claw
③ Screw (M2×5)
⑥ VK-41 board
④ VK sheet metal assembly
⑤ Flat cable
(From VK-41 : CN501/AU-192 : CN908)
Main frame
AU-192 board

2-19. REMOVAL OF LENS BLOCK

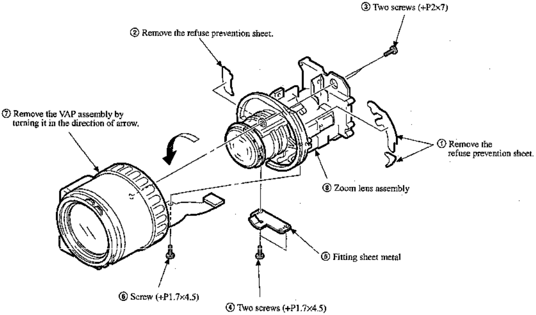

Main frame
③ Flat cable
(From LD-86 board/CN304)
② Connector
(From CB-54 board/CN002)
① Three screws (M2×5)
④ Lens block

2-20. REMOVAL OF LD-86, CD-160 AND SE-56 BOARDS

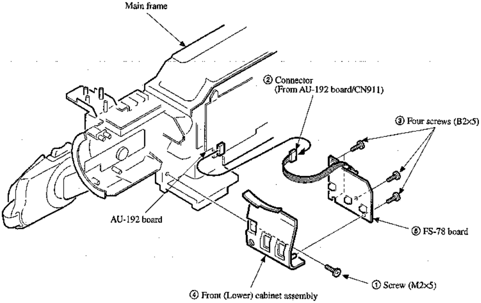

⑩ Screw (B2×5)
⑧ LD-86 board
⑫ CCD case
⑲ Three screws
(B2×5)
⑪ Screw
(B2×5)
⑨ Flat cable
(From CN301)
㉑ SE-56 board
⑦ Flat cable
(From CN302)
⑥ Screw (M2×5)
⑭ Screw
(2×7.5)
⑤ Ferrite core
⑱ Seal
rubber
(M)
③ Core retainer
⑳ Flat cable
(From CN801)
⑮ CD-160
board
⑬ Two screws
(2×7.5)
② Screw (M2×5)
④ Ferrite core
⑯ Prism CCD (GP)
⑰ Light interception plate
㉒ ZOOM LENS

① Remove the lens hood assembly by loosing this screw.

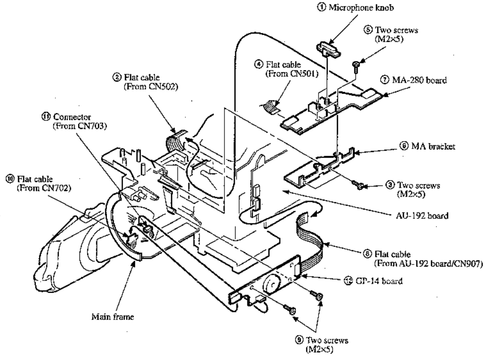
2-21. REMOVAL OF ZOOM LENS ASSEMBLY


③ Two screws (+P2×7)
② Remove the refuse prevention sheet.
⑦ Remove the VAP assembly by turning it in the direction of arrow.
① Remove the refuse prevention sheet.
⑧ Zoom lens assembly
⑤ Fitting sheet metal
⑥ Screw (+P1.7×4.5)
④ Two screws (+P1.7×4.5)

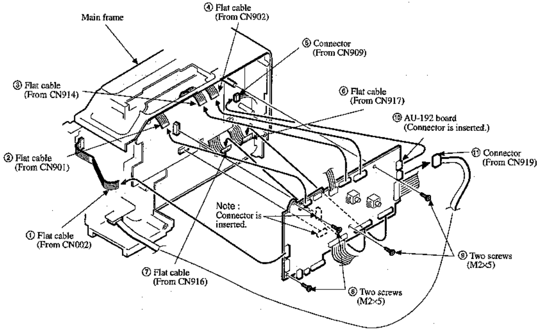
2-22. REMOVAL OF FS-78 BOARD


Main frame
② Connector
(From AU-192 board/CN911)
③ Four screws (B2×5)
AU-192 board
⑤ FS-78 board
① Screw (M2×5)
④ Front (Lower) cabinet assembly

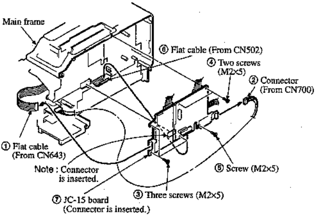
2-23. REMOVAL OF MA-280 AND GP-14 BOARDS


① Microphone knob
⑤ Two screws (M2×5)
④ Flat cable (From CN501)
⑦ MA-280 board
② Flat cable (From CN502)
⑪ Connector (From CN703)
⑥ MA bracket
⑩ Flat cable (From CN702)
③ Two screws (M2×5)
AU-192 board
⑧ Flat cable (From AU-192 board/CN907)
⑫ GP-14 board
Main frame
⑨ Two screws (M2×5)

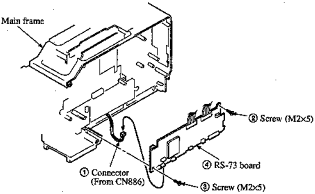
2-24. REMOVAL OF AU-192 BOARD


Main frame
④ Flat cable (From CN902)
⑤ Connector (From CN909)
③ Flat cable (From CN914)
⑥ Flat cable (From CN917)
⑩ AU-192 board (Connector is inserted.)
② Flat cable (From CN901)
⑪ Connector (From CN919)
Note : Connector is inserted.
⑨ Two screws (M2×5)
① Flat cable (From CN002)
⑦ Flat cable (From CN916)
⑧ Two screws (M2×5)

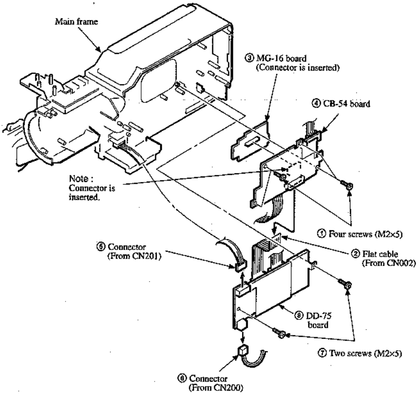
2-25. REMOVAL OF JC-15 BOARD


Main frame
⑥ Flat cable (From CN502)
④ Two screws (M2×5)
② Connector (From CN700)
① Flat cable (From CN643)
Note : Connector is inserted.
⑤ Screw (M2×5)
⑦ JC-15 board (Connector is inserted.)
③ Three screws (M2×5)

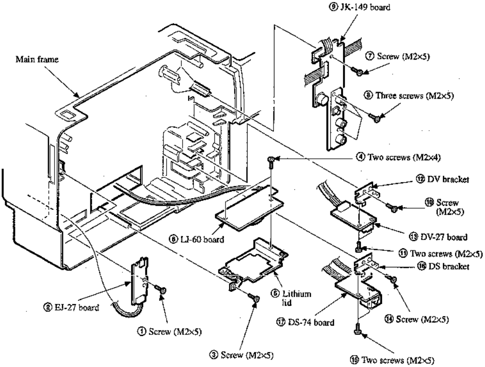
2-26. REMOVAL OF RS-73 BOARD


Main frame
② Screw (M2×5)
④ RS-73 board
① Connector (From CN886)
③ Screw (M2×5)

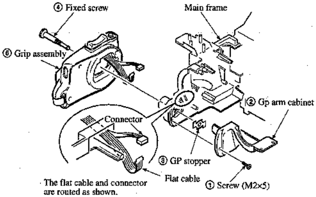
2-27. REMOVAL OF MG-16, CB-54 AND DD-75 BOARDS


Main frame
③ MG-16 board (Connector is inserted)
④ CB-54 board
Note : Connector is inserted.
① Four screws (M2×5)
⑤ Connector (From CN201)
② Flat cable (From CN002)
⑧ DD-75 board
⑦ Two screws (M2×5)
⑥ Connector (From CN200)

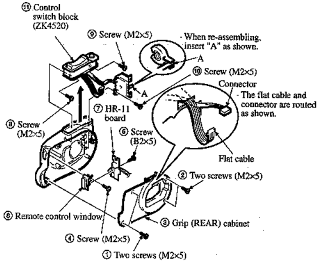
2-28. REMOVAL OF EJ-27, LI-60, JK-149, DV-27 AND DS-74 BOARDS


⑨ JK-149 board
Main frame
⑦ Screw (M2×5)
⑧ Three screws (M2×5)
④ Two screws (M2×4)
⑫ DV bracket
⑩ Screw (M2×5)
⑬ DV-27 board
⑥ LI-60 board
⑪ Two screws (M2×5)
⑯ DS bracket
⑤ Lithium lid
② EJ-27 board
⑰ DS-74 board
⑭ Screw (M2×5)
① Screw (M2×5)
③ Screw (M2×5)
⑮ Two screws (M2×5)

2-29. REMOVAL OF GRIP ASSEMBLY


④ Fixed screw
Main frame
⑤ Grip assembly
② Gp arm cabinet
Connector
③ GP stopper
Flat cable
① Screw (M2×5)
· The flat cable and connector are routed as shown.

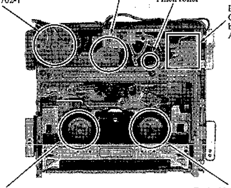
2-30. REMOVAL OF CONTROL SWITCH BLOCK (ZK4520)


⑪ Control switch block (ZK4520)
⑨ Screw (M2×5)
· When re-assembling, insert "A" as shown.
A
⑩ Screw (M2×5)
Connector
A
· The flat cable and connector are routed as shown.
⑦ HR-11 board
⑧ Screw (M2×5)
⑥ Screw (B2×5)
Flat cable
② Two screws (M2×5)
⑤ Remote control window
③ Grip (REAR) cabinet
④ Screw (M2×5)
① Two screws (M2×5)

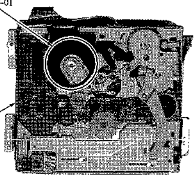
2-31. INTERNAL VIEWS

- **MECHANISM BLOCK**

—Front view—

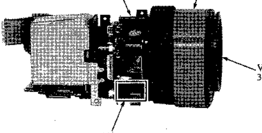

M901
Drum assembly (DEH-09A-R)
A-7044-013-A
M903
Cam motor assembly
X-3946-702-1
Pinch roller
Lording motor
Compartment
block assembly
A-7025-004-A
Reel table (S) assembly
X-3946-685-1
Reel table (T) assembly
X-3946-686-1

—Bottom view—

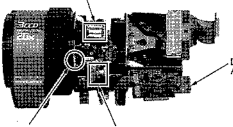

M902
DC motor (SCD13A/J-N)
8-835-575-01
MD-70 board
A-7066-872-A

- **ZOOM LENS BLOCK**

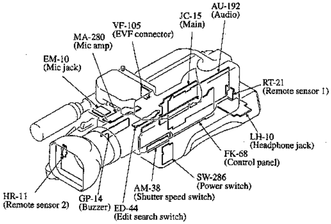
—Left side—

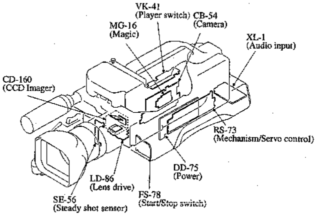

Zoom lens (VCL-5910WA)
1-547-795-31
Zoom lens assembly
3-709-016-01
VAP assembly
3-709-010-01
M905
Zoom motor
3-709-154-01

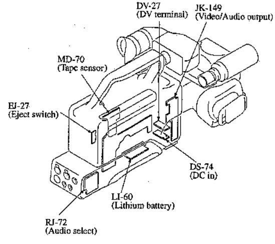
—Right side—


Iris meter
LD-86 board
A-7072-885-A
M906
VAP lock motor umit
3-709-014-01
M904
Forcus motor
3-709-155-01

2-32. CIRCUIT BOARDS LOCATION

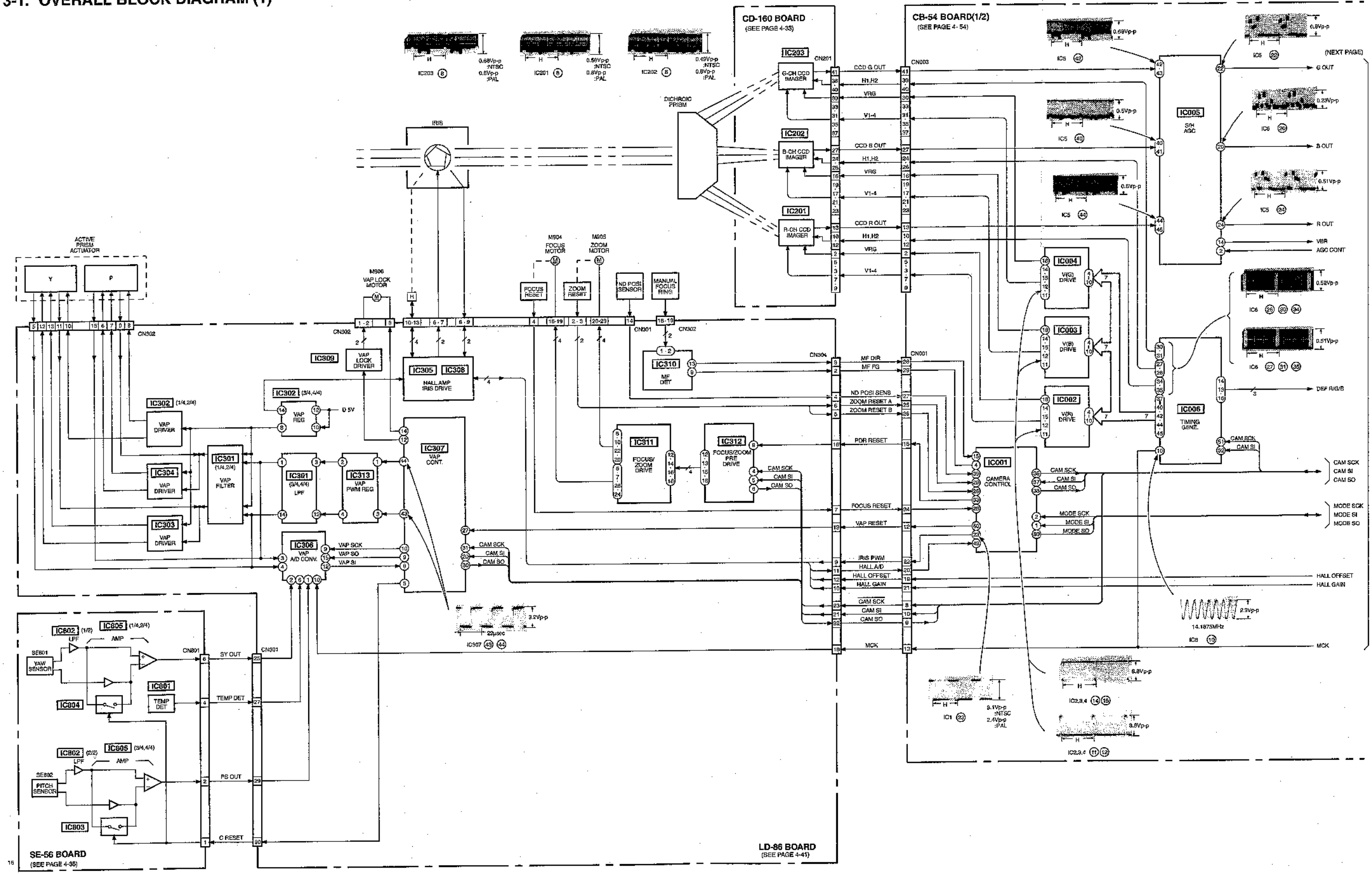

AU-192
(Audio)
JC-15
(Main)
VF-105
(EVF connector)
MA-280
(Mic amp)
EM-10
(Mic jack)
RT-21
(Remote sensor 1)
LH-10
(Headphone jack)
FK-68
(Control panel)
SW-286
(Power switch)
AM-38
(Shutter speed switch)
HR-11
(Remote sensor 2)
GP-14
(Buzzer)
ED-44
(Edit search switch)


VK-41
(Player switch)
CB-54
(Camera)
MG-16
(Magic)
XL-1
(Audio input)
CD-160
(CCD Imager)
RS-73
(Mechanism/Servo control)
DD-75
(Power)
LD-86
(Lens drive)
FS-78
(Start/Stop switch)
SE-56
(Steady shot sensor)

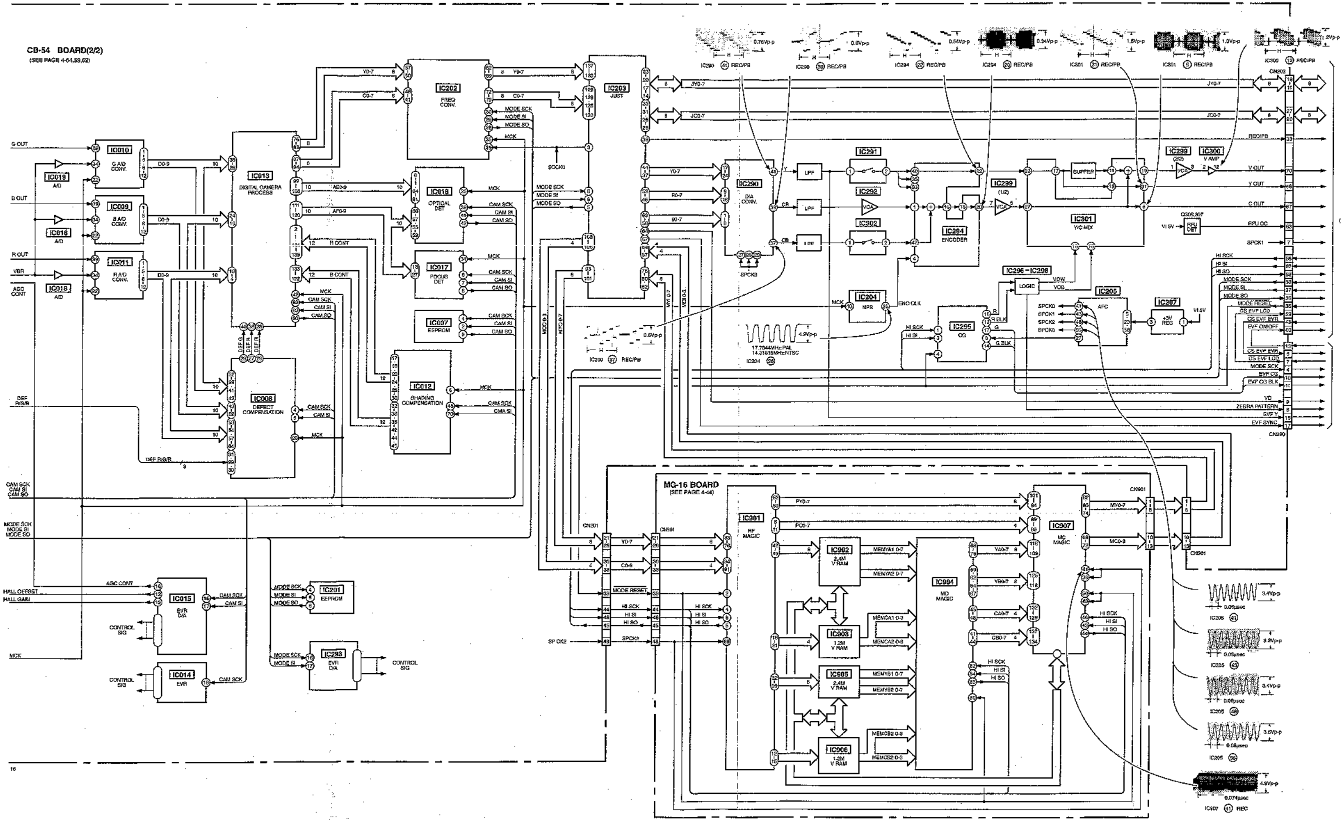

DV-27
(DV terminal)
JK-149
(Video/Audio output)
MD-70
(Tape sensor)
EJ-27
(Eject switch)
DS-74
(DC in)
LI-60
(Lithium battery)
RJ-72
(Audio select)

SECTION 3
BLOCK DIAGRAMS

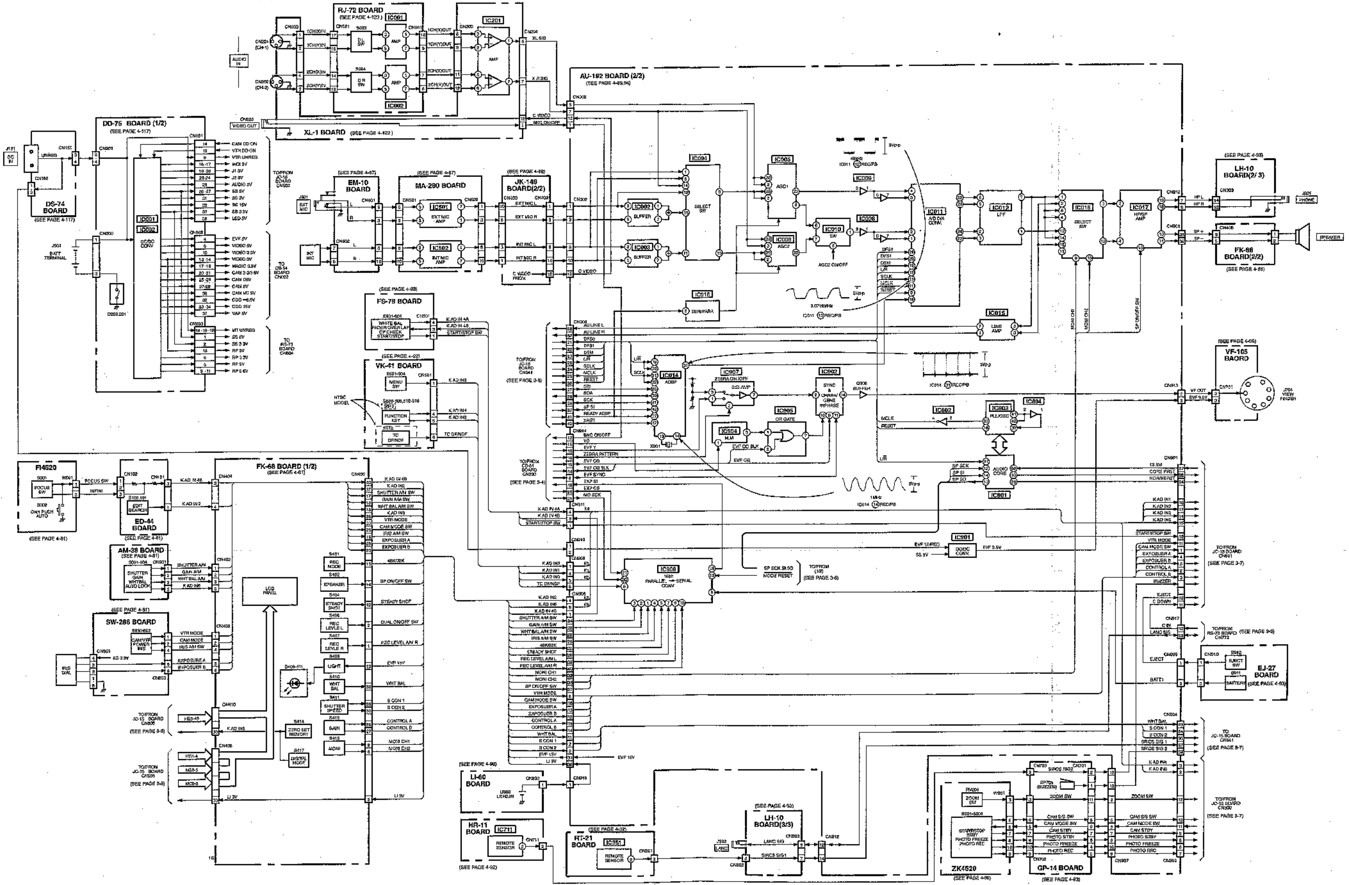
3-1. OVERALL BLOCK DIAGRAM (1)


CD-160 BOARD
(SEE PAGE 4-33)
CB-54 BOARD(1/2)
(SEE PAGE 4-54)
(NEXT PAGE)
IC203
G-CH CCD IMAGER
IC202
B-CH CCD IMAGER
IC201
R-CH CCD IMAGER
CN201
CN003
CCD G OUT
CCD B OUT
CCD R OUT
H1,H2
VRG
V1-4
DICHROIC PRISM
IRIS
0.68Vp-p :NTSC
0.6Vp-p :PAL
0.56Vp-p :NTSC
0.8Vp-p :PAL
0.48Vp-p :NTSC
IC203 ⑧
IC201 ⑧
IC202 ⑧
IC005
S/H AGC
G OUT
B OUT
R OUT
VBR
AGC CONT
IC5 ㊷
IC5 ㊵
IC5 ㊹
IC5 ㉒
IC5 ⑳
IC5 ㉔
0.69Vp-p
0.5Vp-p
0.23Vp-p
0.51Vp-p
0.8Vp-p
IC004
V(G) DRIVE
IC003
V(B) DRIVE
IC002
V(R) DRIVE
IC006
TIMING GENE.
DEF R/G/B
0.52Vp-p
0.51Vp-p
IC6 ㉕ ㉚ ㉞
IC6 ㉗ ㉛ ㉟
IC001
CAMERA CONTROL
CAM SCK
CAM SI
CAM SO
MODE SCK
MODE SI
MODE SO
HALL OFFSET
HALL GAIN
MCK
2.9Vp-p
14.1875MHz
IC8 ⑩
CN001
MF DIR
MF FG
ND POSI SENS
ZOOM RESET A
ZOOM RESET B
PDR RESET
FOCUS RESET
VAP RESET
IRIS PWM
HALL A/D
CN304
6.8Vp-p
IC2,3,4 ⑭ ⑯
3.8Vp-p
IC2,3,4 ⑪ ⑫
3.1Vp-p :NTSC
2.4Vp-p :PAL
IC1 ㉒
ACTIVE PRISM ACTUATOR
Y
P
CN302
M906
VAP LOCK MOTOR
M904
FOCUS MOTOR
M905
ZOOM MOTOR
FOCUS RESET
ZOOM RESET
ND POSI SENSOR
MANUAL FOCUS RING
CN301
IC309
VAP LOCK DRIVER
IC305
IC308
HALL AMP IRIS DRIVE
IC310
MF DET
IC302 (3/4,4/4)
VAP REG
D 5V
IC302 (1/4,2/4)
VAP DRIVER
IC304
VAP DRIVER
IC303
VAP DRIVER
IC301 (1/4,2/4)
VAP FILTER
IC301 (3/4,4/4)
LPF
IC313
VAP PWM REG
IC307
VAP CONT.
IC306
VAP A/D CONV.
VAP SCK
VAP SO
VAP SI
IC311
FOCUS/ ZOOM DRIVE
IC312
FOCUS/ZOOM PRE DRIVE
3.2Vp-p
22μsec
IC307 ㊸ ㊹
LD-86 BOARD
(SEE PAGE 4-41)
SE-56 BOARD
(SEE PAGE 4-35)
16
IC802 (1/2)
LPF
IC805 (1/4,2/4)
AMP
SE801
YAW SENSOR
IC804
IC801
TEMP DET
IC802 (2/2)
IC805 (3/4,4/4)
SE802
PITCH SENSOR
IC803
CN801
SY OUT
TEMP DET
PS OUT
C RESET

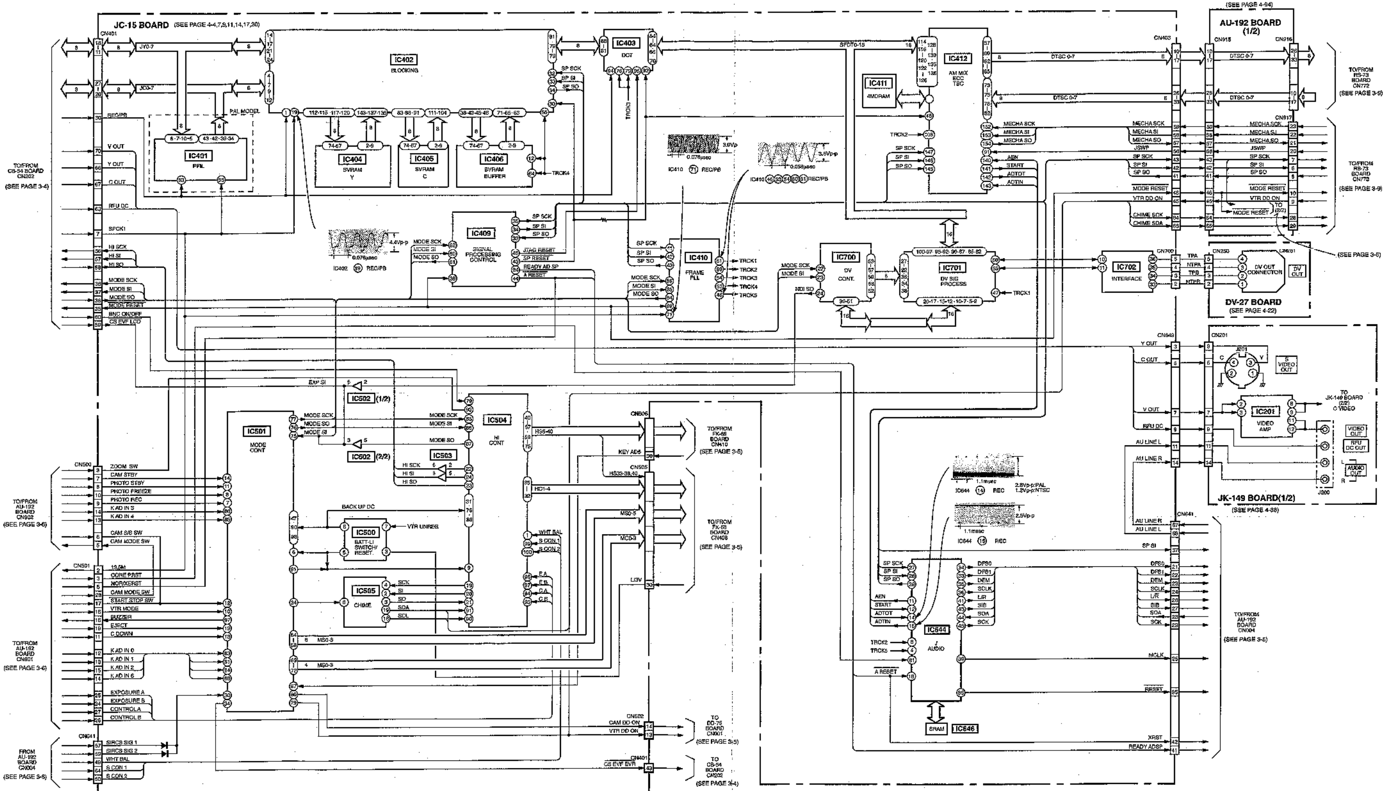
3-2. OVERALL BLOCK DIAGRAM (2)


CB-54 BOARD(2/2)
(SEE PAGE 4-64,59,62)
G OUT
B OUT
R OUT
VBR
AGC CONT
DEF R/G/B
CAM SCK
CAM SI
CAM SO
MODE SCK
MODE SI
MODE SO
HALL OFFSET
HALL GAIN
MCK
IC019 A/D
IC016 A/D
IC018 A/D
IC010 G A/D CONV.
IC009 B A/D CONV.
IC011 R A/D CONV.
IC013 DIGITAL CAMERA PROCESS
IC008 DEFECT COMPENSATION
IC202 FREQ CONV.
IC016 OPTICAL DET
IC017 FOCUS DET
IC007 EEPROM
IC012 SHADING COMPENSATION
IC203 JUST
IC015 EVR D/A
IC014 EVR
IC201 EEPROM
IC293 EVR D/A
CONTROL SIG
AGC CONT
Y0-7
C0-7
D0-9
AE0-9
AF0-9
R CONT
B CONT
MODE RESET
SCK00
JY0-7
JC0-7
IC290 D/A CONV.
IC291
IC292 VCA
IC302
IC294 ENCODER
IC299 (1/2) VCA
IC301 Y/C MIX
BUFFER
IC299 (2/2) VCA
IC300 V AMP
IC204 NPS
IC295 CG
IC296 – IC298 LOGIC
IC205 AFC
IC207 +3V REG
Q306,307 RFU DET
LPF
SPCK0
SPCK1
SPCK2
SPCK3
ENC CLK
VOW
VOB
HI SCK
HI SI
HI SO
G BLK
REC/PB
Y OUT
Y OUT
C OUT
RFU DC
SPCK1
CS EVF LCD
CS EVF BVR
EVF ON/OFF
CS EVF BVR
CS EVF LCD
EVF CG
EVF CG BLK
YD
ZEBRA PATTERN
EVF Y
EVF SYNC
CN202
CN290
TO/FROM JC-16 BOARD CN401 (SEE PAGE 3-7,8)
TO/FROM AU-192 BOARD CN914 (SEE PAGE 3-8)
0.76Vp-p
0.8Vp-p
0.54Vp-p
0.34Vp-p
1.8Vp-p
1.3Vp-p
2Vp-p
0.8Vp-p
4.9Vp-p
17.734447MHz:PAL
14.31818MHz:NTSC
IC290 (41) REC/PB
IC290 (39) REC/PB
IC294 (22) REC/PB
IC294 (20) REC/PB
IC301 (31) REC/PB
IC301 (5) REC/PB
IC300 (12) REC/PB
IC290 (37) REC/PB
IC204 (26)
MG-16 BOARD
(SEE PAGE 4-44)
CN201
CN901
IC901 RF MAGIC
IC902 2.4M V RAM
IC903 1.2M V RAM
IC905 2.4M V RAM
IC906 1.2M V RAM
IC904 MD MAGIC
IC907 MC MAGIC
PY0-7
PC0-7
MY0-7
MC0-3
YA0-7
YB0-7
CA0-7
CB0-7
MEMYA1 0-7
MEMYA2 0-7
MEMCA1 0-3
MEMCA2 0-3
MEMYB1 0-7
MEMYB2 0-7
MEMCB1 0-3
MEMCB2 0-3
SPCK2
SP CK2
3.4Vp-p
0.08μsec
IC205 (41)
3.2Vp-p
IC205 (43)
3.4Vp-p
IC205 (48)
3.6Vp-p
IC205 (50)
4.8Vp-p
0.074μsec
IC907 (41) REC

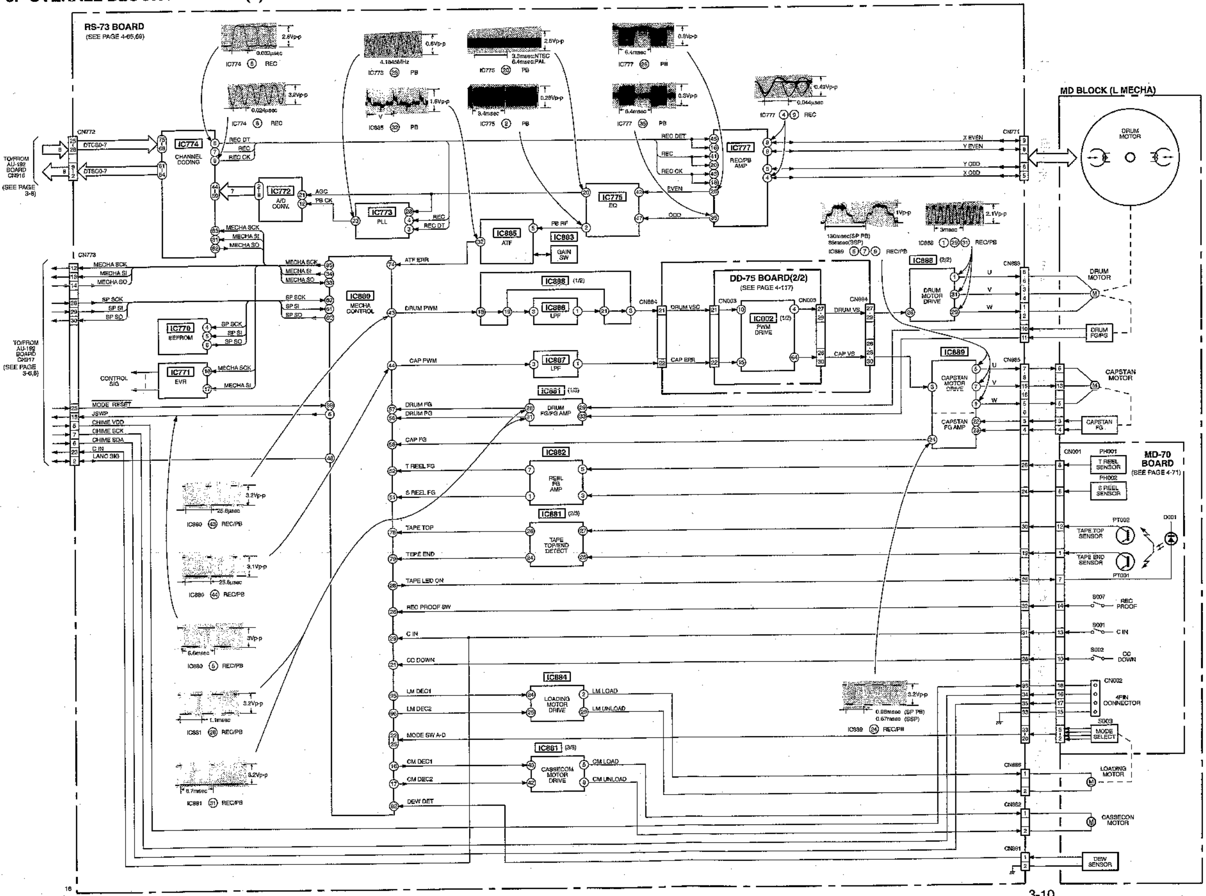
3-3. OVERALL BLOCK DAIGRAM (3)


RJ-72 BOARD
(SEE PAGE 4-123)
IC901
IC902
IC201
XL-1 BOARD (SEE PAGE 4-122)
AUDIO IN
VIDEO OUT
AU-192 BOARD (2/2)
(SEE PAGE 4-89,94)
DD-75 BOARD (1/2)
(SEE PAGE 4-117)
DS-74 BOARD
(SEE PAGE 4-117)
DC IN
IC001
IC002
DC/DC CONV
BATT TERMINAL
EM-10 BOARD
MA-280 BOARD
JK-149 BOARD(2/2)
EXT MIC
INT MIC
IC501
IC502
EXT MIC AMP
INT MIC AMP
IC002
IC003
BUFFER
IC004
SELECT SW
IC005
IC006
AGC1
AGC2
IC009
IC008
IC010
IC011
A/D D/A CONV.
IC012
LPF
IC016
SELECT SW
IC017
HP/SP AMP
IC015
LINE AMP
IC013
SER/PARA
LH-10 BOARD(2/3)
PHONE
FK-86 BOARD(2/2)
SPEAKER
FS-78 BOARD
WHITE BAL
STARTSTOP
VK-41 BOARD
MENU SW
FUNCTION KEY
TC DF/NDF
NTSC MODEL
IC814
ADBP
IC907
ZEBRA ON/OFF
IC902
SYNC & CHARA/GENE
IC905
OR GATE
IC904
M.M
IC602
IC803
PLL/OSC
IC804
AUDIO CORE
IC801
VF-105 BAORD
VIEW FINDER
IC901
DC/DC CONV.
IC908
16bit PARALLEL → SERIAL CONV
FI4520
FOCUS SW
ONE PUSH AUTO
ED-44 BOARD
EDIT SEARCH
FK-68 BOARD (1/2)
(SEE PAGE 4-81)
AM-38 BOARD
SHUTTER GAIN WHT BAL AUTO LOCK
SW-286 BOARD
CAM/VTR POWER IRIS
IRIS DIAL
LCD PANEL
REC MODE
SPEAKER
STEADY SHOT
REC LEVEL L
REC LEVEL R
LIGHT
WHT BAL
SHUTTER SPEED
GAIN
MONI
ZERO SET MEMORY
DIGITAL MODE
LI-60 BOARD
LITHIUM
HR-11 BOARD
IC751
REMOTE SENSOR
RT-21 BOARD
IC951
REMOTE SENSOR
LH-10 BOARD(3/3)
LANC
ZK4520
ZOOM SW
START/STOP STBY PHOTO FREEZE PHOTO REC
GP-14 BOARD
EJ-27 BOARD
EJECT SW
BATTERY
TO/FROM JC-15 BOARD
TO/FROM RS-73 BOARD

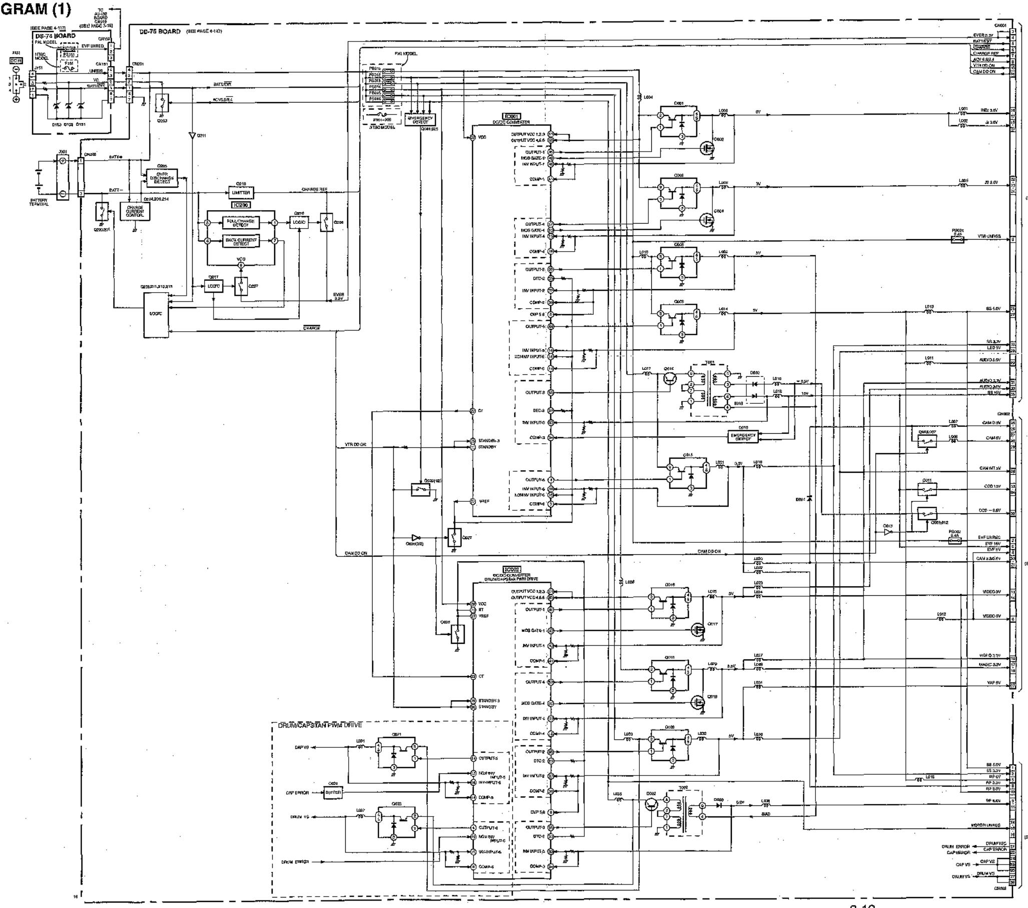
3-4. OVERALL BLOCK DIAGRAM (4)


JC-15 BOARD (SEE PAGE 4-4,7,9,11,14,17,20)
CN401
IC402
BLOCKING
IC401
PRL
IC404
SVRAM
Y
IC405
SVRAM
C
IC406
SVRAM
BUFFER
IC403
DCT
IC412
AM MIX
ECC
TBC
IC411
4MDRAM
IC409
SIGNAL PROCESSING CONTROL
IC410
FRAME FLL
IC700
DV CONT.
IC701
DV SIG PROCESS
IC702
INTERFACE
IC501
MODE CONT
IC502 (1/2)
IC502 (2/2)
IC503
IC504
HI CONT
IC500
BATT-LI SWITCH/ RESET
IC505
CHIME
IC644
AUDIO
IC646
SRAM
AU-192 BOARD (1/2)
(SEE PAGE 4-94)
CN403
CN915
CN916
CN917
DV-27 BOARD
(SEE PAGE 4-22)
DV OUT CONNECTOR
DV OUT
JK-149 BOARD(1/2)
(SEE PAGE 4-38)
IC201
VIDEO AMP
S VIDEO OUT
VIDEO OUT
RFU DC OUT
AUDIO OUT
TO/FROM CB-54 BOARD CN202 (SEE PAGE 3-4)
TO/FROM AU-192 BOARD CN902 (SEE PAGE 3-6)
TO/FROM AU-192 BOARD CN801 (SEE PAGE 3-6)
FROM AU-192 BOARD CN004 (SEE PAGE 3-6)
TO/FROM RS-73 BOARD CN772 (SEE PAGE 3-9)
TO/FROM RS-73 BOARD CN773 (SEE PAGE 3-9)
(SEE PAGE 3-6)
TO JK-149 BOARD (2/2) C VIDEO
TO/FROM FK-68 BOARD CN410 (SEE PAGE 3-5)
TO/FROM FK-68 BOARD CN408 (SEE PAGE 3-5)
TO DD-75 BOARD CN001 (SEE PAGE 3-5)
TO CB-54 BOARD CN202 (SEE PAGE 3-4)
TO/FROM AU-192 BOARD CN004 (SEE PAGE 3-5)
IC402 ⑲ REC/PB
IC410 ⑪ REC/PB
IC644 ⑭ REC
IC644 ⑲ REC

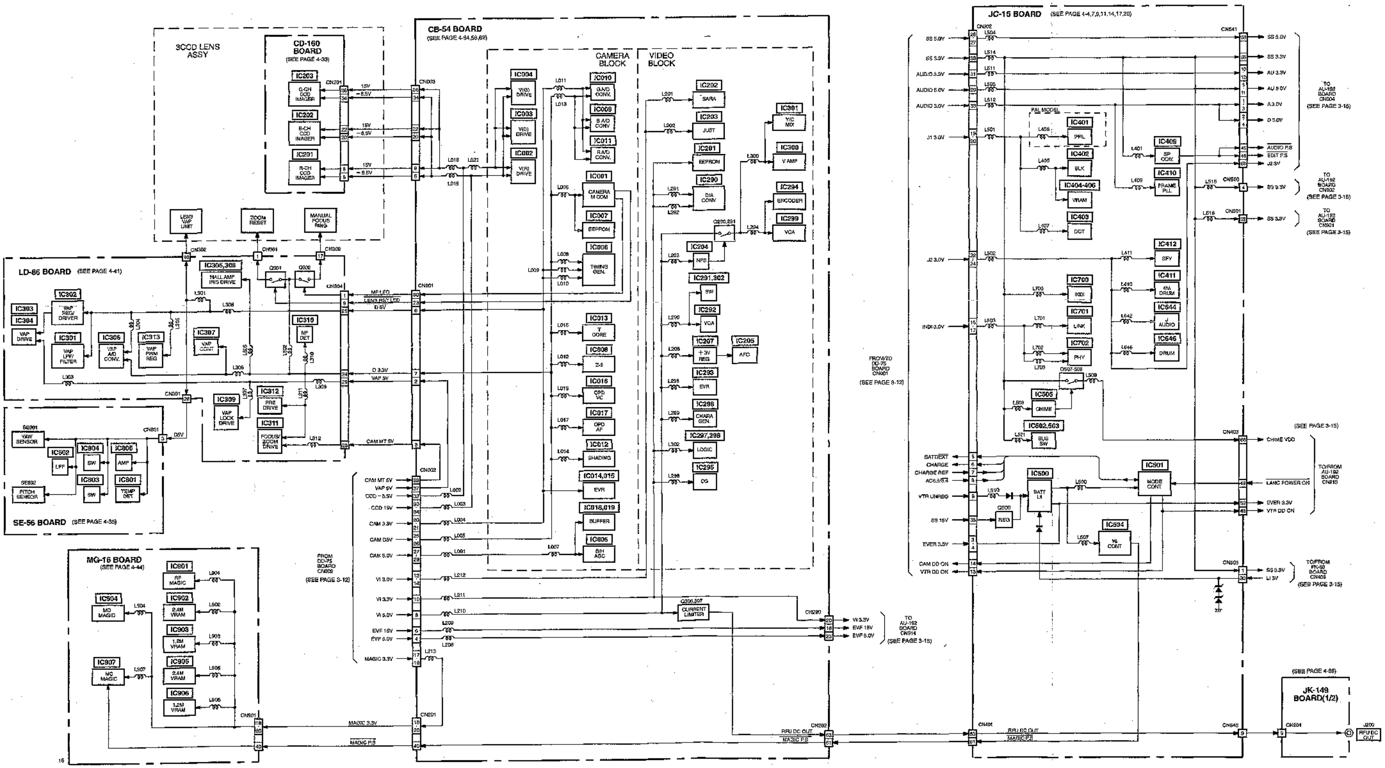
3-5. OVERALL BLOCK DIAGRAM (5)


RS-73 BOARD
(SEE PAGE 4-65,69)
TO/FROM AU-192 BOARD CN916 (SEE PAGE 3-8)
CN772
DTCS0-7
IC774
CHANNEL CODING
REC DT
REC
REC CK
IC772
A/D CONV.
AGC
PB CK
IC773
PLL
REC DT
IC885
ATF
IC883
GAIN SW
PB RF
IC775
EQ
EVEN
ODD
IC777
REC/PB AMP
REC DET
REC CK
X EVEN
Y EVEN
Y ODD
X ODD
CN771
MD BLOCK (L MECHA)
DRUM MOTOR
IC774 ⑥ REC
IC774 ⑧ REC
IC773 ㉙ PB
IC885 ㉜ PB
IC775 ⑳ PB
IC775 ② PB
IC777 ㉖ PB
IC777 ㉟ PB
IC777 ④ ⑨ REC
2.6Vp-p
0.032μsec
3.2Vp-p
0.024μsec
0.6Vp-p
4.1845MHz
1.6Vp-p
2.5Vp-p
3.3msec:NTSC
6.4msec:PAL
0.28Vp-p
6.4msec
0.8Vp-p
0.3Vp-p
0.49Vp-p
0.044μsec
CN773
MECHA SCK
MECHA SI
MECHA SO
SP SCK
SP SI
SP SO
TO/FROM AU-192 BOARD CN917 (SEE PAGE 3-6,8)
IC776
EEPROM
IC771
EVR
CONTROL SIG
MODE RESET
JSWP
CHIME VDD
CHIME SCK
CHIME SDA
C IN
LANC SIG
IC880
MECHA CONTROL
ATF ERR
DRUM PWM
CAP PWM
DRUM FG
DRUM PG
CAP FG
T REEL FG
S REEL FG
TAPE TOP
TAPE END
TAPE LED ON
REC PROOF SW
C IN
CC DOWN
LM DEC1
LM DEC2
MODE SW A-D
CM DEC1
CM DEC2
DEW DET
IC886 (1/2)
IC886
LPF
IC887
LPF
IC881 (1/3)
DRUM FG/PG AMP
IC882
REEL FG AMP
IC881 (2/3)
TAPE TOP/END DETECT
IC884
LOADING MOTOR DRIVE
LM LOAD
LM UNLOAD
IC881 (3/3)
CASSECOM MOTOR DRIVE
CM LOAD
CM UNLOAD
DD-75 BOARD(2/2)
(SEE PAGE 4-117)
CN884
CN003
IC002 (1/2)
PWM DRIVE
DRUM VSC
CAP ERR
DRUM VS
CAP VS
IC888 (2/2)
DRUM MOTOR DRIVE
IC889
CAPSTAN MOTOR DRIVE
CAPSTAN FG AMP
IC888 ① ㉙ ㉛ REC/PB
IC889 ⑤ ⑦ ⑨ REC/PB
1Vp-p
130msec(SP PB)
86msec(SSP)
2.1Vp-p
3msec
U
V
W
CN883
CN885
DRUM FG/PG
CAPSTAN MOTOR
CAPSTAN FG
MD-70 BOARD
(SEE PAGE 4-71)
CN001
PH001
T REEL SENSOR
PH002
S REEL SENSOR
PT002
TAPE TOP SENSOR
TAPE END SENSOR
PT001
D001
S007
REC PROOF
S001
C IN
S002
CC DOWN
CN002
4PIN CONNECTOR
S003
MODE SELECT
CN886
LOADING MOTOR
CN882
CASSECOM MOTOR
CN881
DEW SENSOR
3.2Vp-p
25.6μsec
IC880 ㊸ REC/PB
3.1Vp-p
25.6μsec
IC880 ㊹ REC/PB
3Vp-p
6.6msec
IC880 ⑤ REC/PB
3.2Vp-p
1.1msec
IC881 ㉘ REC/PB
3.2Vp-p
6.7msec
IC881 ㉛ REC/PB
3.2Vp-p
0.88msec (SP PB)
0.67msec (SSP)
IC889 ㉔ REC/PB

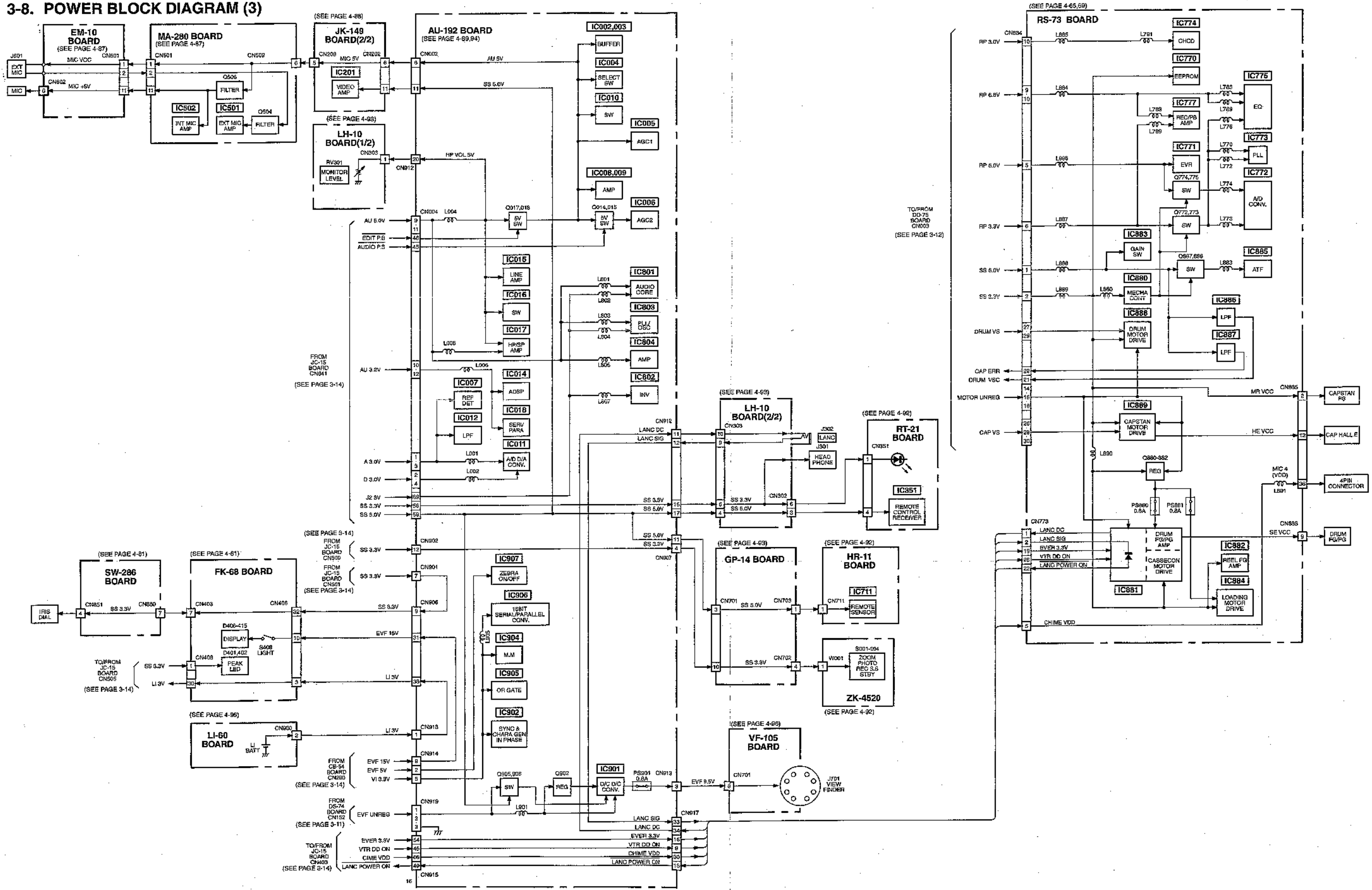
3-6. POWER BLOCK DIAGRAM (1)


TO AU-192 BOARD CN919 (SEE PAGE 3-16)
(SEE PAGE 4-117)
DS-74 BOARD
PAL MODEL
NTSC MODEL
PS151
F151
EVF UNREG
CN150
CN151
UNREG
VC
BATT/EXT
J151
DC IN
D153 D152 D151
DD-75 BOARD (SEE PAGE 4-117)
CN201
BATT/EXT
ACV6.5/8.4
Q203
Q211
J001
CN200
BATT+
BATT−
BATTERY TERMINAL
Q205
OVER DISCHARGE DETECT
Q210
LIMITTER
CHARGE REF
IC200
FULL CHARGE DETECT
BACK CURRENT DETECT
VCC
Q216
LOGIC
Q206
Q204,209,214
CHARGE CURRENT CONTROL
Q200,201
Q217
LOGIC
Q207
Q208,211,213,215
LOGIC
EVER 3.3V
CHARGE
PAL MODEL
PS011
PS012
PS013
PS014
PS015
PS016
F001~006
NTSC MODEL
EMERGENCY DETECT
Q024,025
IC001
DC/DC CONVERTER
VCC
OUTPUT VCC 1,2,3
OUTPUT VCC 4,5,6
OUTPUT-1
MOS GATE-1
INV INPUT-1
COMP-1
OUTPUT-4
MOS GATE-4
INV INPUT-4
COMP-4
OUTPUT-2
DTC-2
INV INPUT-2
COMP-2
OUTPUT-5
INV INPUT-5
COMP-5
OUTPUT-3
DTC-3
INV INPUT-3
COMP-3
OUTPUT-6
INV INPUT-6
COMP-6
CT
STANDBY-3
STANDBY
VREF
VTR DD ON
CAM DD ON
Q026
Q027
Q028
Q001
Q002
Q003
Q004
Q005
Q006
Q014
T001
D002
D003
D010
EMERGENCY DETECT
Q015
D007
L001
L002
L005
L011
L012
L013
L007
L008
PS001 0.4A
PS002 0.4A
Q005,007
Q011
Q009,012
Q013
CN001
EVER 3.3V
BATT/EXT
CHARGE
CHARGE REF
ACV 6.5/8.4
VTR DD ON
CAM DD ON
IND 3.0V
JJ 3.0V
J2 3.0V
VTR UNREG
SS 5.0V
SS 3.3V
LED 5V
AUDIO 5.0V
AUDIO 3.3V
AUDIO 3.0V
SS +5V
TO/FROM JC-15 BOARD CN602 (SEE PAGE 3-14)
CN002
CAM D 5V
CAM 5V
CAM MT 5V
CCD 15V
CCD −8.5V
EVF UNREG
EVF 16V
EVF 5V
CAM 3.3/3.5V
VIDEO 3V
VIDEO 5V
TO CB-34 BOARD CN002 (SEE PAGE 3-13)
IC002
DC/DC CONVERTER DRUM/CAPSTAN PWM DRIVE
VCC
RT
VREF
OUTPUT-1
MOS GATE-1
INV INPUT-1
COMP-1
OUTPUT-4
MOS GATE-4
INV INPUT-4
COMP-4
OUTPUT-2
DTC-2
INV INPUT-2
COMP-2
OUTPUT-3
DTC-3
INV INPUT-3
COMP-3
CT
STANDBY-3
STANDBY
Q016
Q017
Q018
Q019
Q020
Q022
T002
D022
VIDEO 3.3V
MAGIC 3.3V
VAP 5V
DRUM/CAPSTAN PWM DRIVE
CAP VS
CAP ERROR
BUFFER
Q024
Q021
Q023
DRUM VS
DRUM ERROR
OUTPUT-5
NON INV INPUT-5
INV INPUT-5
COMP-5
OUTPUT-6
NON INV INPUT-6
INV INPUT-6
COMP-6
SS 5.0V
SS 3.3V
RP 6V
RP 3.3V
RP 3.0V
RP 6.0V
L016
MOTOR UNREG
DRUM VSC
DRUM ERROR
CAP ERROR
CAP VS
DRUM VS
CN003
TO/FROM RS-78 BOARD CN584 (SEE PAGE 3-16)

3-7. POWER BLOCK DIAGRAM (2)


3CCD LENS ASSY
CD-160 BOARD (SEE PAGE 4-33)
IC203 G-CH CCD IMAGER
IC202 B-CH CCD IMAGER
IC201 R-CH CCD IMAGER
CN201
15V
−8.5V
LENS VAP UNIT
ZOOM RESET
MANUAL FOCUS RING
CN302
CN301
LD-86 BOARD (SEE PAGE 4-41)
IC305,308 HALL AMP IRIS DRIVE
Q301
Q302
CN304
IC302 VAP REG/ DRIVER
IC303
IC304
VAP DRIVE
IC301 VAP LPF/ FILTER
IC306 VAP A/D CONV.
IC313 VAP PWM REG
IC307 VAP CONT
IC310 MF DET
IC309 VAP LOCK DRIVE
IC312 PRE DRIVE
IC311 FOCUS/ ZOOM DRIVE
L301
L302
L303
L304
L305
L306
L307
L308
L309
L310
L311
L312
L316
MF LED
LENS RST LED
D 5V
D 3.3V
VAP 5V
CAM MT 5V
D5V
SE-56 BOARD (SEE PAGE 4-35)
SE801 YAW SENSOR
SE802 PITCH SENSOR
IC802 LPF
IC804 SW
IC806 AMP
IC803 SW
IC801 TEMP DET
CN801
MG-16 BOARD (SEE PAGE 4-44)
IC901 RF MAGIC
IC902 2.4M VRAM
IC903 1.2M VRAM
IC905 2.4M VRAM
IC906 1.2M VRAM
IC904 MD MAGIC
IC907 MC MAGIC
L901
L902
L903
L904
L905
L906
L907
CN901
16
CB-54 BOARD (SEE PAGE 4-54,59,62)
CN003
CN001
CN002
CN201
CAMERA BLOCK
IC004 V(G) DRIVE
IC003 V(B) DRIVE
IC002 V(R) DRIVE
IC010 G A/D CONV.
IC009 B A/D CONV.
IC011 R A/D CONV.
IC001 CAMERA M COM
IC007 EEPROM
IC006 TIMING GEN.
IC013 T CORE
IC008 Z-8
IC016 OPD VC
IC017 OPD AF
IC012 SHADING
IC014,015 EVR
IC018,019 BUFFER
IC005 S/H AGC
L001
L002
L003
L004
L005
L006
L007
L008
L009
L010
L011
L012
L013
L014
L015
L017
L018
L019
L021
VIDEO BLOCK
IC202 SARA
IC203 JUST
IC201 EEPROM
IC290 D/A CONV
IC301 Y/C MIX
IC300 V AMP
IC294 ENCODER
IC299 VCA
Q290,291
IC204 NPS
IC291,302 SW
IC292 VCA
IC207 +3V REG
IC205 AFC
IC293 EVR
IC296 CHARA GEN.
IC297,298 LOGIC
IC295 CG
Q306,307 CURRENT LIMITER
L201
L202
L203
L206
L208
L209
L210
L211
L212
L213
L289
L290
L291
L292
L293
L294
L298
L300
L302
CAM MT 5V
VAP 5V
CCD −8.5V
CCD 15V
CAM 3.3V
CAM D5V
CAM 5.0V
VI 3.0V
VI 3.3V
VI 5.0V
EVF 15V
EVF 5.0V
MAGIC 3.3V
FROM DD-75 BOARD CN002 (SEE PAGE 3-12)
MAGIC 3.3V
MAGIC P.S
CN290
VI 3.3V
EVF 15V
EVF 5.0V
TO AU-192 BOARD CN914 (SEE PAGE 3-15)
CN202
RFU DC OUT
MAGIC P.S
JC-15 BOARD (SEE PAGE 4-4,7,9,11,14,17,20)
CN502
CN641
SS 5.0V
SS 3.3V
AUDIO 3.3V
AUDIO 5.0V
AUDIO 3.0V
J1 3.0V
J2 3.0V
INDI 3.0V
L501
L502
L503
L504
L505
L511
L512
L514
PAL MODEL
IC401 PPIL
IC402 BLK
IC404-406 VRAM
IC403 DCT
IC409 SP COM
IC410 FRAME PLL
IC412 SFY
IC411 4M DRUM
IC644 J AUDIO
IC646 DRUM
IC700 INDI
IC701 LINK
IC702 PHY
L401
L405
L406
L407
L409
L410
L411
L642
L646
L700
L701
L702
L703
Q507-509
L509
IC505 CHIME
IC502,503 BUS SW
L508
L521
SS 5.0V
SS 3.3V
AU 3.3V
AU 5.0V
A 3.0V
D 3.0V
AUDIO P.S
EDIT P.S
J2 3V
TO AU-192 BOARD CN004 (SEE PAGE 3-15)
L515
CN500
SS 3.3V
TO AU-192 BOARD CN902 (SEE PAGE 3-15)
L516
CN501
SS 3.3V
TO AU-192 BOARD CN901 (SEE PAGE 3-15)
FROM/TO DD-75 BOARD CN001 (SEE PAGE 3-12)
BATT/EXT
CHARGE
CHARGE REF
AC6.5/8.4
VTR UNREG
SS 15V
EVER 3.3V
CAM DD ON
VTR DD ON
IC500 BATT LI
Q500 REG
L510
L500
L507
IC501 MODE CONT
IC504 Hi CONT
CN403
(SEE PAGE 3-15)
CHIME VDD
LANC POWER ON
EVER 3.3V
VTR DD ON
TO/FROM AU-192 BOARD CN815
CN505
SS 3.3V
LI 3V
TO/FROM FK-68 BOARD CN408 (SEE PAGE 3-15)
CN401
RFU DC OUT
MAGIC P.S
CN643
(SEE PAGE 4-86)
JK-149 BOARD(1/2)
CN201
J200 RFU DC OUT

3-8. POWER BLOCK DIAGRAM (3)


EM-10 BOARD
(SEE PAGE 4-87)
EXT MIC
MIC
MIC VCC
MIC +5V
MA-280 BOARD
(SEE PAGE 4-87)
FILTER
IC502
INT MIC AMP
IC501
EXT MIC AMP
JK-149 BOARD(2/2)
(SEE PAGE 4-88)
IC201
VIDEO AMP
LH-10 BOARD(1/2)
(SEE PAGE 4-93)
MONITOR LEVEL
AU-192 BOARD
(SEE PAGE 4-89,94)
AU 5V
SS 5.0V
HP VOL 5V
IC002,003
BUFFER
IC004
SELECT SW
IC010
SW
IC005
AGC1
IC008,009
AMP
IC006
AGC2
IC015
LINE AMP
IC016
SW
IC017
HP/SP AMP
IC014
ADSP
IC018
SER/PARA
IC011
A/D D/A CONV.
IC007
REF DET
IC012
LPF
IC801
AUDIO CODE
IC803
PLL/OSC
IC804
AMP
IC802
INV
AU 5.0V
EDIT P.S
AUDIO P.S
AU 3.2V
A 3.0V
D 3.0V
J2 3V
SS 3.3V
SS 5.0V
FROM JC-15 BOARD CN841
(SEE PAGE 3-14)
IC907
ZEBRA ON/OFF
IC906
16BIT SERIAL/PARALLEL CONV.
IC904
M.M
IC905
OR GATE
IC902
SYNC & CHARA GEN IN PHASE
IC901
D/C D/C CONV.
REG
SW
SW-286 BOARD
(SEE PAGE 4-81)
IRIS DIAL
FK-68 BOARD
(SEE PAGE 4-81)
DISPLAY
S408 LIGHT
PEAK LED
LI-60 BOARD
(SEE PAGE 4-96)
LI BATT
LI 3V
EVF 15V
EVF 5V
VI 3.3V
EVF UNREG
EVER 3.3V
VTR DD ON
CIME VDD
LANC POWER ON
LANC SIG
LANC DC
CHIME VDD
FROM CB-54 BOARD CN280
(SEE PAGE 3-14)
FROM DS-74 BOARD CN152
(SEE PAGE 3-11)
TO/FROM JC-15 BOARD CN403
(SEE PAGE 3-14)
LH-10 BOARD(2/2)
(SEE PAGE 4-93)
LANC
HEAD PHONE
RT-21 BOARD
(SEE PAGE 4-92)
IC351
REMOTE CONTROL RECEIVER
GP-14 BOARD
(SEE PAGE 4-93)
HR-11 BOARD
(SEE PAGE 4-92)
IC711
REMOTE SENSOR
ZOOM PHOTO REC S.S STBY
ZK-4520
(SEE PAGE 4-92)
VF-105 BOARD
(SEE PAGE 4-96)
EVF 9.5V
VIEW FINDER
RS-73 BOARD
(SEE PAGE 4-65,69)
RP 3.0V
RP 6.8V
RP 5.0V
RP 3.3V
SS 5.0V
SS 2.3V
DRUM VS
CAP ERR
DRUM VSC
MOTOR UNREG
CAP VS
TO/FROM DD-75 BOARD CN003
(SEE PAGE 3-12)
IC774
CHCD
IC770
EEPROM
IC775
EQ
IC777
REC/PB AMP
IC773
PLL
IC771
EVR
IC772
A/D CONV.
IC883
GAIN SW
IC885
ATF
IC880
MECHA CONT
IC886
LPF
IC888
DRUM MOTOR DRIVE
IC887
LPF
IC889
CAPSTAN MOTOR DRIVE
REG
IC881
DRUM FG/PG AMP
CASSECON MOTOR DRIVE
IC882
REEL FG AMP
IC884
LOADING MOTOR DRIVE
MR VCC
HE VCC
SE VCC
CAPSTAN FG
CAP HALL E
4PIN CONNECTOR
DRUM FG/PG

SECTION 4
PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

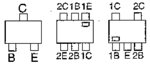
4-1. FRAME SCHEMATIC DIAGRAM

THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

- **For printed wiring boards.**
- ▨ : Pattern from the side which enables seeing. (The other layers' patterns are not indicated.)
- ● : Through hole is omitted.
- Printed wiring board which has four layers structure but inner two layers' patterns are omitted.

Caution :
SIDE A : The pattern face side which is seen when the upper case is opened.
SIDE B : The opposite pattern face side to the pattern seen when the upper case is opened.

- Chip parts (transistor)


C
B E
2C1B1E
2E2B1C
1C 2C
1B E 2B

C: Collector
B: Base
E: Emitter

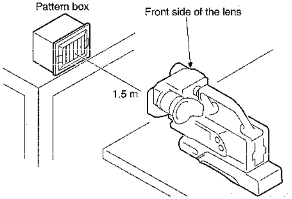
- **For schematic diagrams.**
- Caution when replacing chip parts. New parts must be attached after removal of chip. Be careful not to heat the minus side of tantalum capacitor, because it is damaged by the heat.
- All resistor are in ohms, 1/4W unless otherwise noted. Chip resistor are 1/10W unless otherwise noted. kΩ: 1000Ω, MΩ, : 1000kΩ.
- All capacitors are in μF unless otherwise noted. pF : μ μF. 50V or less are not indicated except for electrolytics and tantalums.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- ▭ : nonflammable resistor.
- ∿ : fusible resistor.
- ▭ : panel designation.
- △ : internal component.
- ▭ : adjustment for repair. *
- ▬ : B+Line. *
- ▬ : B+Line. *
- ⇨ : IN/OUT direction of (+,–) B LINE. *
- Circled numbers refer to waveforms. *
- Signal name
  XEDIT → $\overline{\text{EDIT}}$　　PB/XREC → PB/$\overline{\text{REC}}$

Note : Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Note : The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

- Voltages and waveforms are measured between the measurement points and ground when camera shoots color bar chart of pattern box. They are reference values * and reference waveforms. (VOM of DC 10MΩ input impedance is used.).
- Voltage values change depending upon input impedance of VOM used.)

1. Connection


Pattern box
Front side of the lens
1.5 m

2. Adjust the distance so that the output waveform of Fig. a and the Fig. b can be obtain.

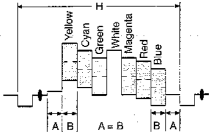

H
Yellow
Cyan
Green
White
Magenta
Red
Blue
A
B
A = B
B
A

Fig.a (Video output terminal output waveform)

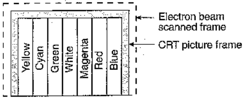
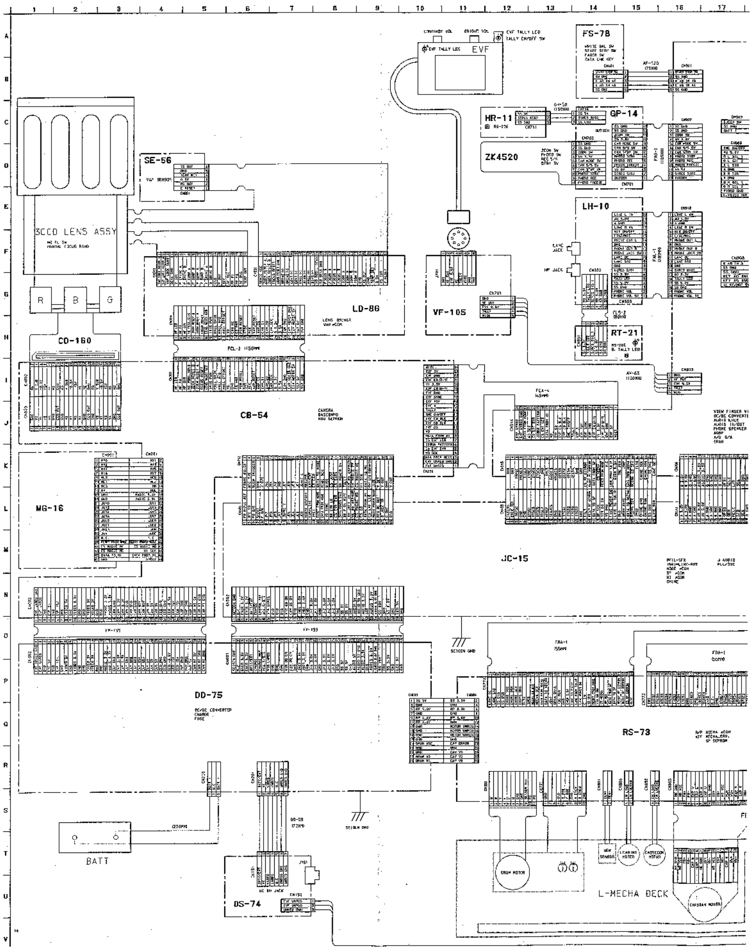

Yellow
Cyan
Green
White
Magenta
Red
Blue
Electron beam scanned frame
CRT picture frame

Fig.b (Picture on monitor TV)

When indicating parts by reference number, pleas include the board name.

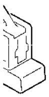
- * : indicated by the color red.


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
A B C D E F G H I J K L M N O P Q R S T U V
EVF
FS-78
HR-11
GP-14
ZK4520
SE-56
LH-10
3CCD LENS ASSY
LD-86
VF-105
RT-21
CD-160
CB-54
MG-16
JC-15
DD-75
RS-73
BATT
DS-74
L-MECHA DECK

TIC DIAGRAM

tween the
era shoots
nce values

impedance

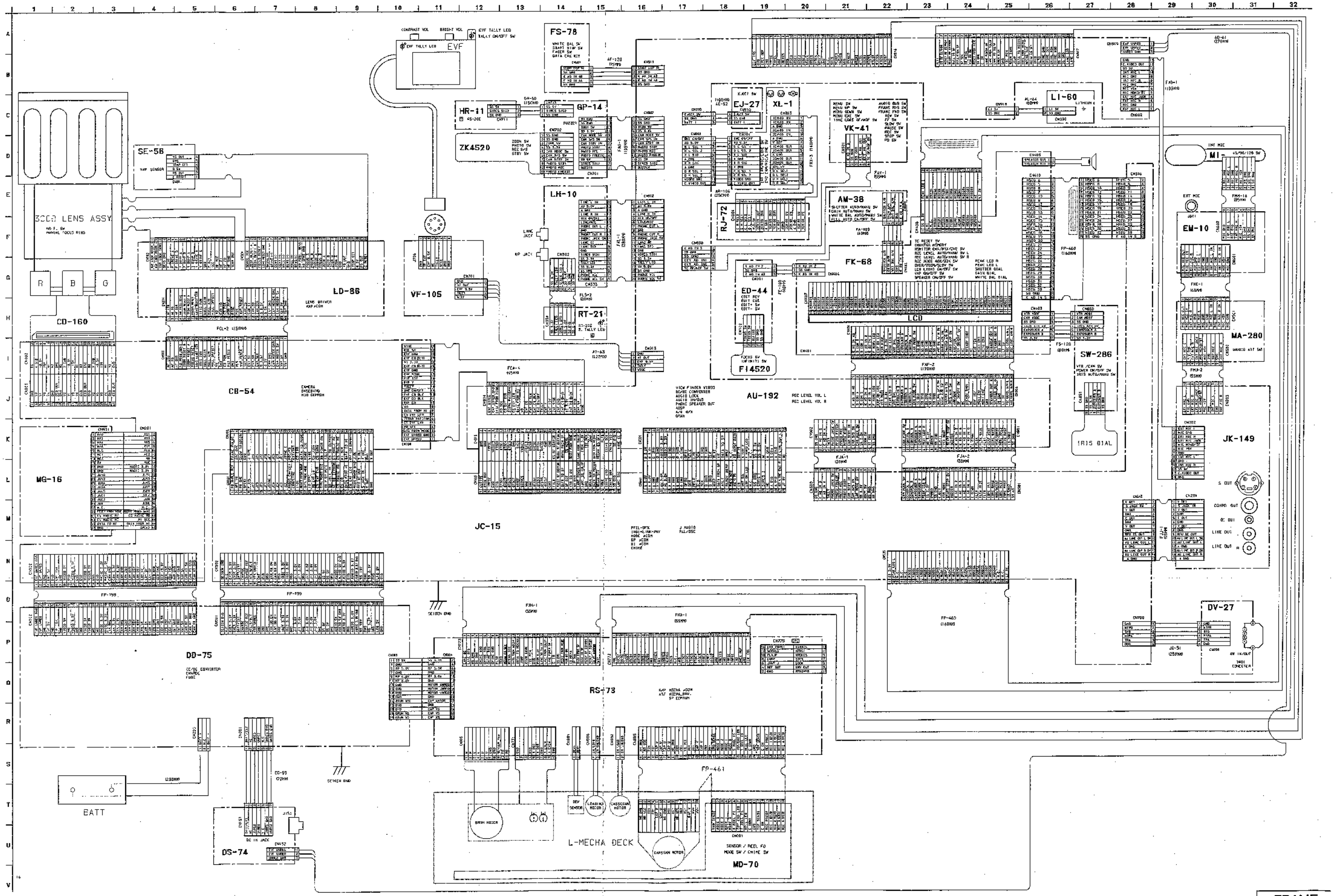


m of Fig. a

)

beam
d frame
ture frame

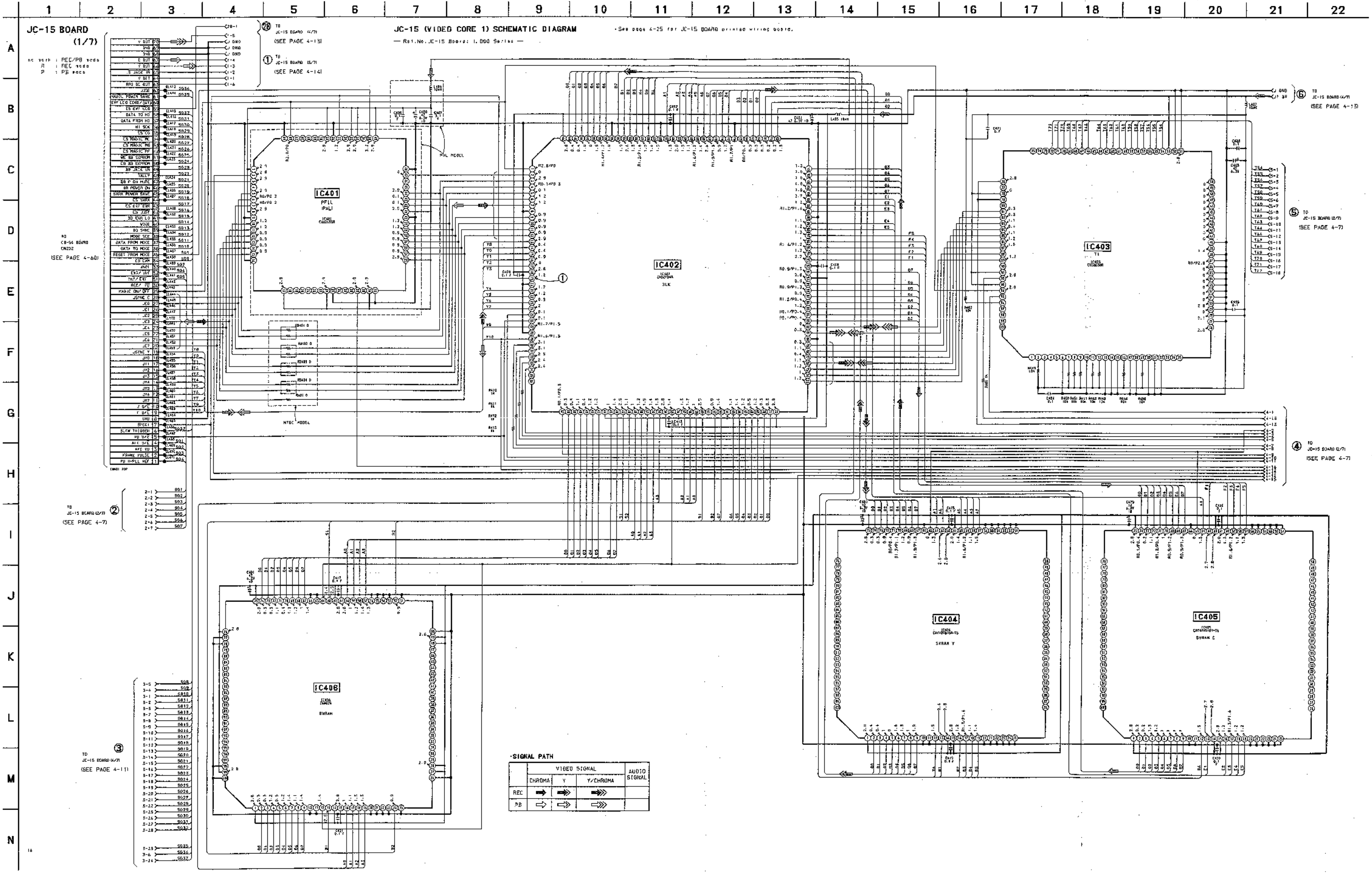
leas



FS-78
EVF
CONTRAST VOL
BRIGHT VOL
EVF TALLY LED
HR-11
GP-14
ZK4520
SE-56
3CCD LENS ASSY
R
B
G
CD-160
LD-86
VF-105
LH-10
RT-21
EJ-27
XL-1
VK-41
LI-60
MI
AM-38
RJ-72
FK-68
ED-44
LCD
F14520
AU-192
CB-54
EM-10
MA-280
SW-286
IRIS DIAL
JK-149
MG-16
JC-15
DD-75
RS-73
DV-27
FP-461
L-MECHA DECK
MD-70
DS-74
BATT

FRAME

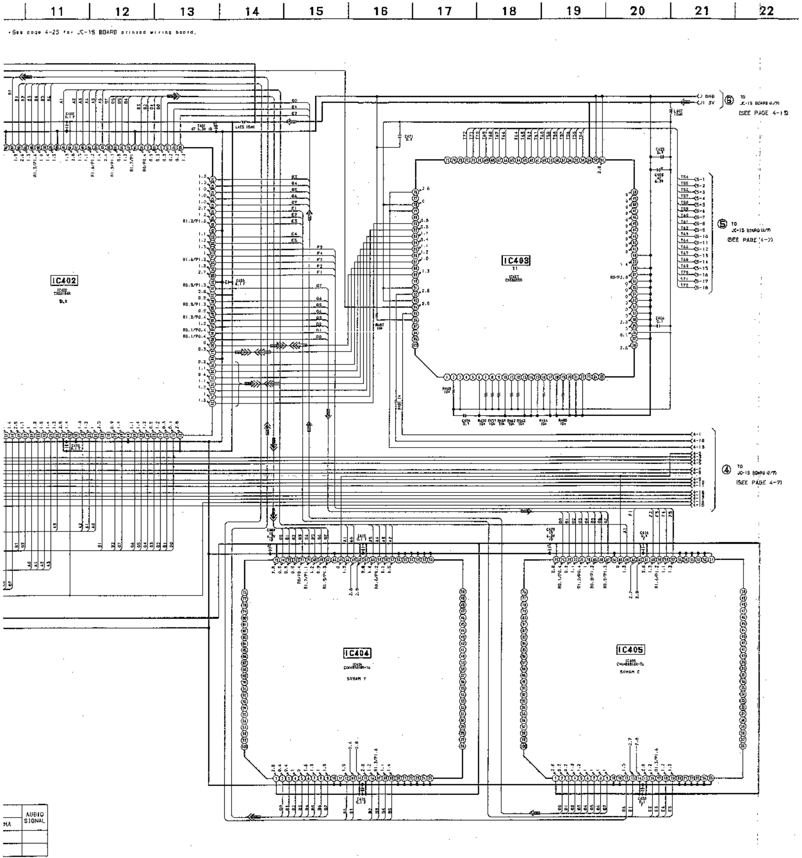
4-2. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS


JC-15 BOARD
(1/7)
no mark : REC/PB mode
R : REC mode
P : PB mode
JC-15 (VIDEO CORE 1) SCHEMATIC DIAGRAM
— Ref.No.JC-15 Board: 1,000 Series —
•See page 4-25 for JC-15 BOARD printed wiring board.
㉘ TO JC-15 BOARD (4/7) (SEE PAGE 4-15)
① TO JC-15 BOARD (5/7) (SEE PAGE 4-14)
⑥ TO JC-15 BOARD (4/7) (SEE PAGE 4-13)
⑤ TO JC-15 BOARD (2/7) (SEE PAGE 4-7)
④ TO JC-15 BOARD (2/7) (SEE PAGE 4-7)
② TO JC-15 BOARD (2/7) (SEE PAGE 4-7)
③ TO JC-15 BOARD (4/7) (SEE PAGE 4-11)
TO CB-54 BOARD CN202 (SEE PAGE 4-60)
CN401 70P
IC401 PLL
PAL MODEL
NTSC MODEL
IC402
IC403
IC404 SVRAM Y
IC405 SVRAM C
IC406 SVRAM
A B C D E F G H I J K L M N
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22

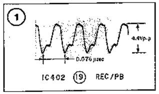
·SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡	➡》	➡》》	
PB	⇨	⇨》	⇨》》	

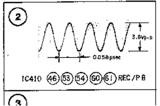
• See page 4-25 for JC-15 BOARD printed wiring board.

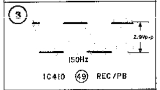

11
12
13
14
15
16
17
18
19
20
21
22
IC402
IC403
IC404
IC405
SYRAM Y
SYRAM C
J GND
J1 3V
⑥ TO JC-15 BOARD (4/7) (SEE PAGE 4-13)
⑤ TO JC-15 BOARD (2/7) (SEE PAGE 4-7)
④ TO JC-15 BOARD (2/7) (SEE PAGE 4-7)
AUDIO SIGNAL

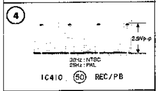
JC-15 BOARD (1/7)

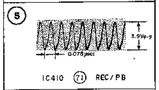


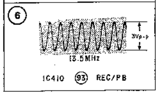
JC-15 BOARD (2/7)











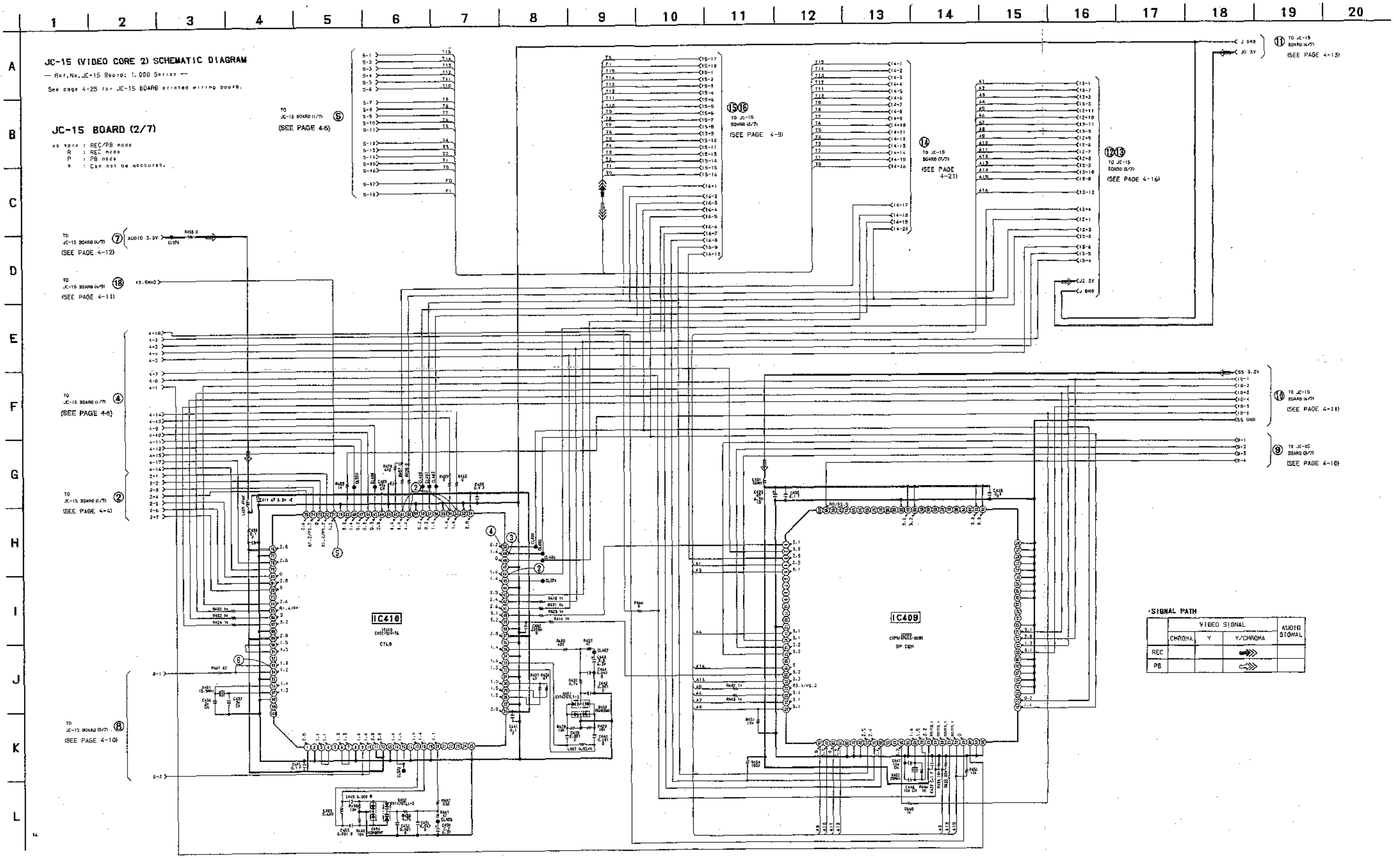
JC-15 (VIDEO CORE 2) SCHEMATIC DIAGRAM

— Ref.No.JC-15 Board: 1,000 Series —

See page 4-25 for JC-15 BOARD printed wiring board.

JC-15 BOARD (2/7)

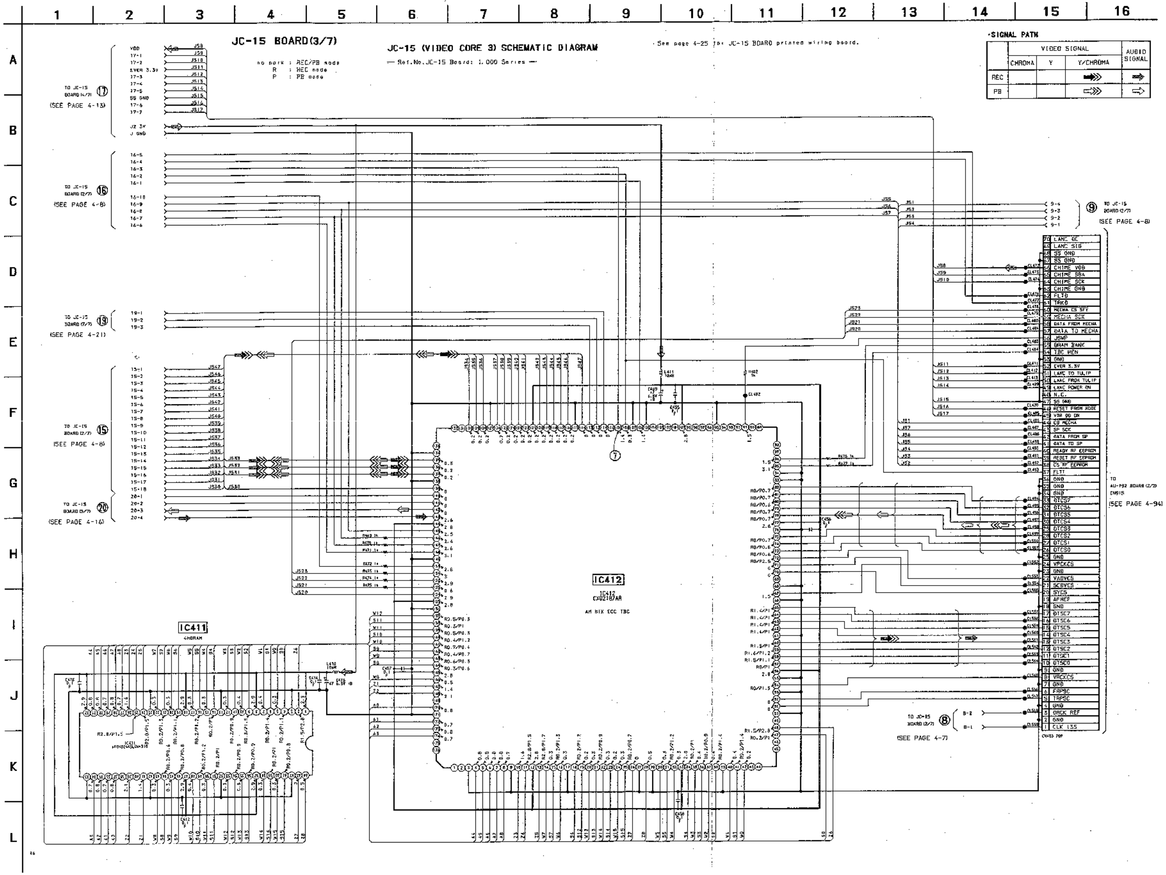
no mark : REC/PB mode
R : REC mode
P : PB mode
* : Can not be measured.



TO JC-15 BOARD (1/7) ⑤ (SEE PAGE 4-5)
⑮⑯ TO JC-15 BOARD (5/7) (SEE PAGE 4-9)
⑭ TO JC-15 BOARD (7/7) (SEE PAGE 4-21)
⑫⑬ TO JC-15 BOARD (5/7) (SEE PAGE 4-16)
⑪ TO JC-15 BOARD (4/7) (SEE PAGE 4-13)
TO JC-15 BOARD (4/7) ⑦ (SEE PAGE 4-12)
AUDIO 3.3V
TO JC-15 BOARD (4/9) ⑱ (SEE PAGE 4-11)
TO JC-15 BOARD (1/7) ④ (SEE PAGE 4-5)
TO JC-15 BOARD (1/7) ② (SEE PAGE 4-4)
TO JC-15 BOARD (3/7) ⑧ (SEE PAGE 4-10)
⑩ TO JC-15 BOARD (4/7) (SEE PAGE 4-11)
⑨ TO JC-15 BOARD (3/7) (SEE PAGE 4-10)
SS 3.3V
SS GND
J GND
J2 3V
IC410
CXD2195R-T4
CTLO
IC409
CXP918P0E2-008R
SP CON

·SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC			➡》》	
PB			⇨》》	


JC-15 BOARD(3/7)
no mark : REC/PB mode
R : REC mode
P : PB mode
TO JC-15 BOARD (4/7) ⑰ (SEE PAGE 4-13)
TO JC-15 BOARD (2/7) ⑯ (SEE PAGE 4-8)
TO JC-15 BOARD (7/7) ⑲ (SEE PAGE 4-21)
TO JC-15 BOARD (2/7) ⑮ (SEE PAGE 4-8)
TO JC-15 BOARD (5/7) ⑳ (SEE PAGE 4-16)
TO JC-15 BOARD (2/7) ⑨ (SEE PAGE 4-8)
TO JC-15 BOARD (2/7) ⑧ (SEE PAGE 4-7)
TO AU-F92 BOARD (2/7) CN915 (SEE PAGE 4-94)
IC412
IC412 CXD2187AR
AM MIX ECC TBC
IC411
4MDRAM
CN403 70P
LANC GC
LANC SIG
SS GND
CHIME VDD
CHIME SDA
CHIME SCK
FLTO
TAKO
MECHA CS SFT
MECHA SCK
DATA FROM MECHA
DATA TO MECHA
JSWP
GRAM BANK
TBC MEN
GND
EVER 3.3V
LANC TO TULIP
LANC FROM TULIP
LANC POWER ON
N.C.
RESET FROM MODE
VTR DD ON
CS MECHA
SP SCK
DATA FROM SP
DATA TO SP
READY RF EEPROM
RESET RF EEPROM
CS RF EEPROM
FLTT
DTCS7
DTCS6
DTCS5
DTCS4
DTCS3
DTCS2
DTCS1
DTCS0
VPCKCS
VADVCS
SCBVCS
SYCS
AFHEP
DTSC7
DTSC6
DTSC5
DTSC4
DTSC3
DTSC2
DTSC1
DTSC0
VRCKCS
FRPSC
TRPSC
DRCK REF
CLK 135

JC-15 (VIDEO CORE 3) SCHEMATIC DIAGRAM

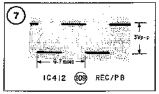
— Ref.No.JC-15 Board: 1,000 Series —

· See page 4-25 for JC-15 BOARD printed wiring board.

·SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC			➡》	➡
PB			⇨》	⇨

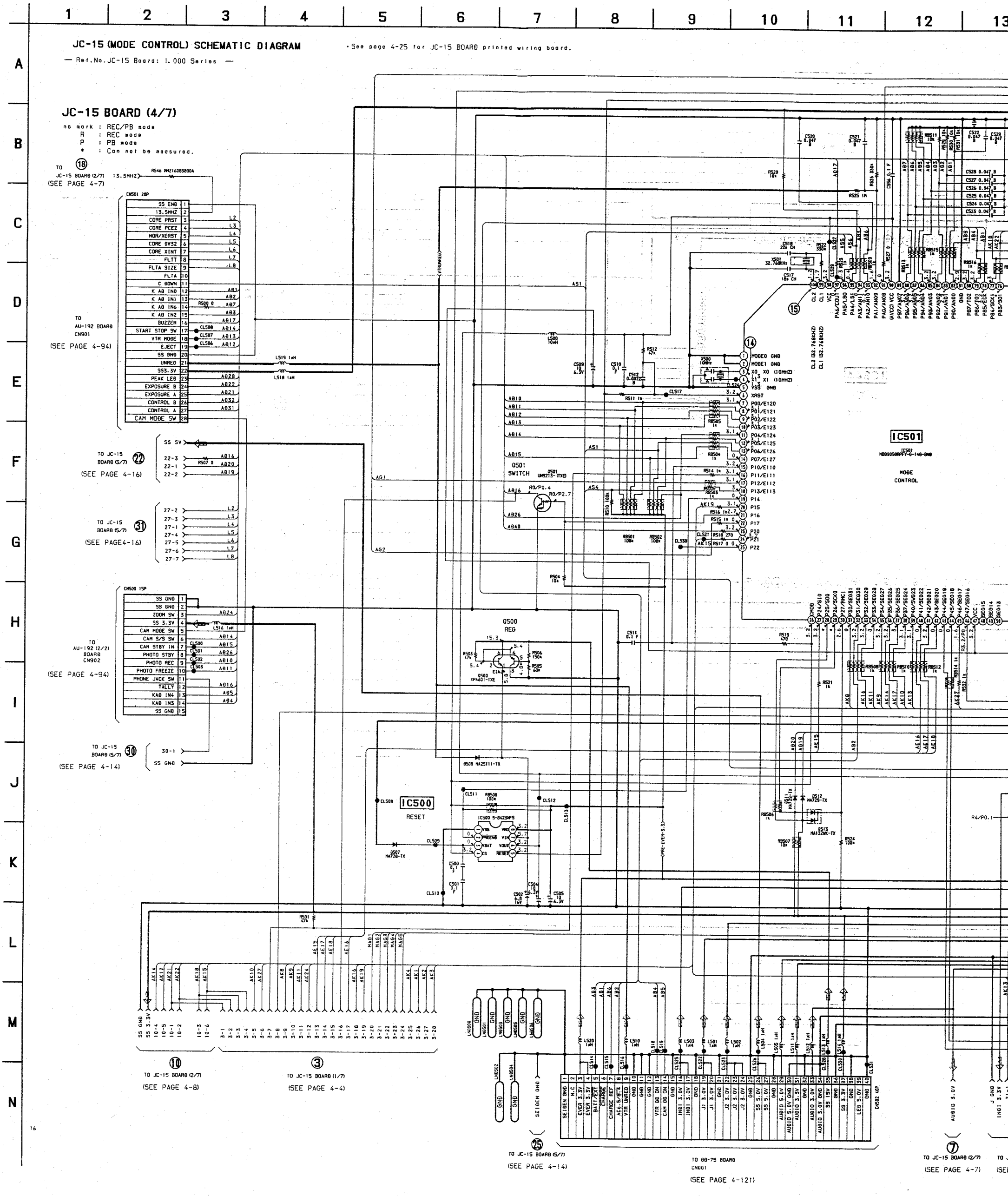
JC-15 BOARD (3/7)

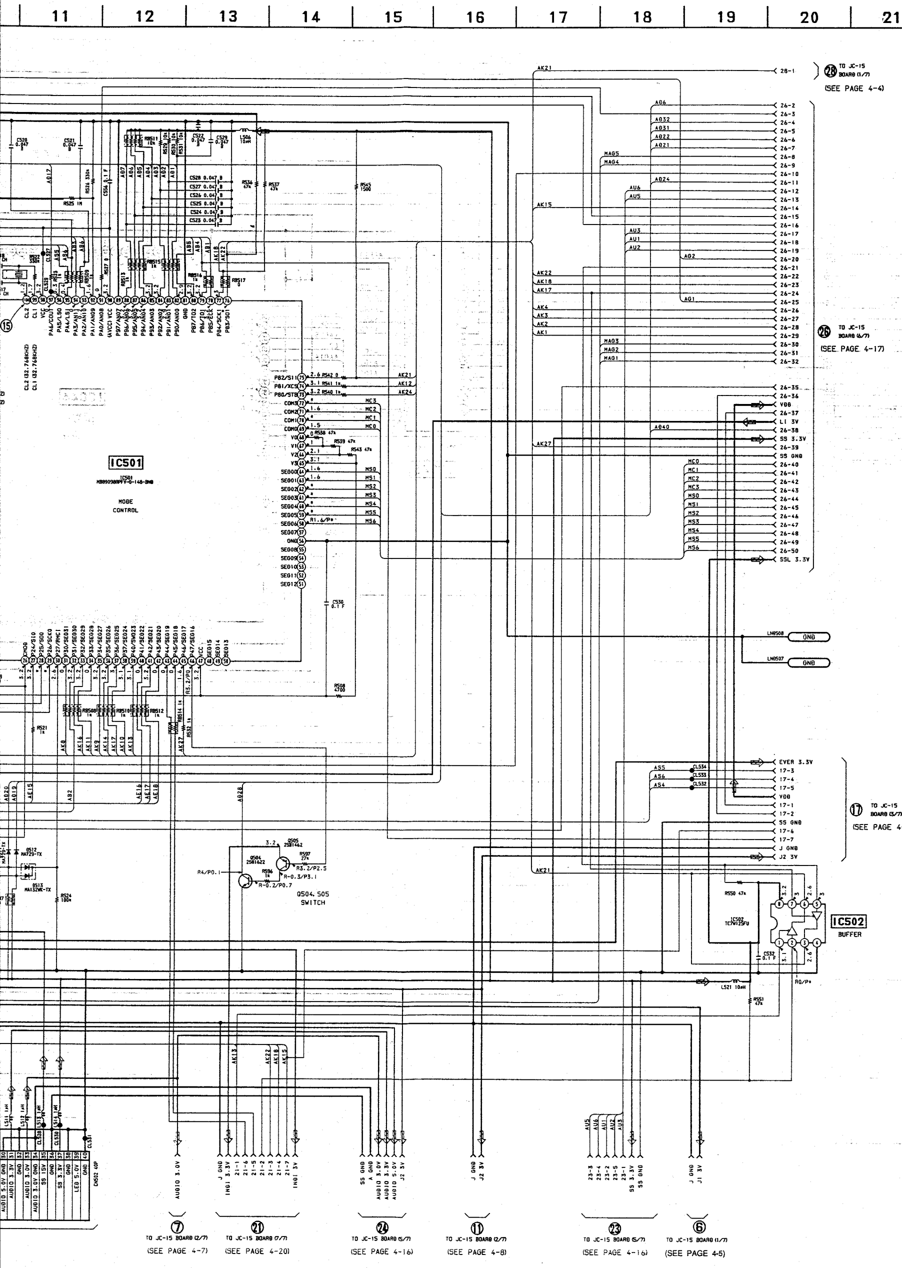


JC-15 (MODE CONTROL) SCHEMATIC DIAGRAM

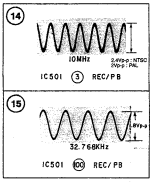
— Ref.No.JC-15 Board: 1.000 Series —

• See page 4-25 for JC-15 BOARD printed wiring board.


1
2
3
4
5
6
7
8
9
10
11
12
13
A
B
C
D
E
F
G
H
I
J
K
L
M
N
JC-15 BOARD (4/7)
no mark : REC/PB mode
R : REC mode
P : PB mode
* : Can not be measured.
TO ⑱ JC-15 BOARD (2/7) (SEE PAGE 4-7)
13.5MHZ
R546 MMZ1608S800A
CN501 28P
SS END 1
13.5MHZ 2
CORE PRST 3
CORE PCEZ 4
NOR/XERST 5
CORE 0V32 6
CORE XINT 7
FLTT 8
FLTA SIZE 9
FLTA 10
C DOWN 11
K AD IN0 12
K AD IN1 13
K AD IN6 14
K AD IN2 15
BUZZER 16
START STOP SW 17
VTR MODE 18
EJECT 19
SS GND 20
UNREG 21
SS3.3V 22
PEAK LED 23
EXPOSURE B 24
EXPOSURE A 25
CONTROL B 26
CONTROL A 27
CAM MODE SW 28
TO AU-192 BOARD CN901 (SEE PAGE 4-94)
R500 0
CL508
CL507
CL506
L519 1uH
L518 1uH
TO JC-15 ㉒ BOARD (5/7) (SEE PAGE 4-16)
SS 5V
22-3
22-1
22-2
R507 0
TO JC-15 ㉛ BOARD (5/7) (SEE PAGE4-16)
27-2
27-3
27-1
27-4
27-5
27-6
27-7
CN500 15P
SS GND 1
SS GND 2
ZOOM SW 3
SS 3.3V 4
CAM MODE SW 5
CAM S/S SW 6
CAM STBY IN 7
PHOTO STBY 8
PHOTO REC 9
PHOTO FREEZE 10
PHONE JACK SW 11
TALLY 12
KAD IN4 13
KAD IN3 14
SS GND 15
TO AU-192 (2/2) BOARD CN902 (SEE PAGE 4-94)
L516 1uH
TO JC-15 ㉚ BOARD (5/7) (SEE PAGE 4-14)
30-1
SS GND
Q501 SWITCH
UN9213-(TXE)
Q500 REG
XP4401-TXE
D508 MA2S111-TX
IC500 RESET
IC500 S-8423NF5
D507 MA728-TX
X500 10MHz
X501 32.768KHz
IC501
IC501 MB89098RPFV-G-148-BND
MODE CONTROL
⑭
⑮
MODE0 GND
MODE1 GND
X0 X0 (10MHZ)
X1 X1 (10MHZ)
VSS GND
XRST
P00/E120
P01/E121
P02/E122
P03/E123
P04/E124
P05/E125
P06/E126
P07/E127
P10/E110
P11/E111
P12/E112
P13/E113
P14
P15
P16
P17
P20
P21
P22
CL2 (32.768KHZ)
CL1 (32.768KHZ)
CL2
CL1
VCC
PA6/COUT
PA5/LS0
PA4/LS1
PA3/AN11
PA2/AN10
PA1/AN09
PA0/AN08
(AVCC) VCC
P97/AN07
P96/AN06
P95/AN05
P94/AN04
P93/AN03
P92/AN02
P91/AN01
P90/AN00
GND
P87/TO2
P86/TO1
P85/ECK
P84/SCK1
P83/SO1
CMOD
P24/SI0
P25/SO0
P26/SCK0
P27/RMC1
P30/SEG31
P31/SEG30
P32/SEG29
P33/SEG28
P34/SEG27
P35/SEG26
P36/SEG25
P37/SEG24
P40/SW023
P41/SEG22
P42/SEG21
P43/SEG20
P44/SEG19
P45/SEG18
P46/SEG17
P47/SEG16
VCC
SEG15
SEG14
SEG13
D512 MA729-TX
D513 MA132WK-TX
(VTRUNREG)
(PRE-EVER-3.3)
TO JC-15 BOARD (2/7) (SEE PAGE 4-8)
TO JC-15 BOARD (1/7) (SEE PAGE 4-4)
SS GND
SS 3.3V
10-4
10-5
10-1
10-2
10-3
10-6
3-1
3-2
3-3
3-4
3-5
3-6
3-7
3-8
3-9
3-10
3-11
3-12
3-13
3-14
3-15
3-16
3-17
3-18
3-19
3-20
3-21
3-22
3-23
3-24
3-25
3-26
3-27
3-28
TO JC-15 ㉕ BOARD (5/7) (SEE PAGE 4-14)
SEIDEN GND
CN502 40P
SEIDEN GND 1
N.C 2
EVER 3.3V 3
EVER 3.3V 4
BATT/EXT 5
CHARGE 6
CHARGE REF 7
AC6.5/B.4 8
VTR UNREG 9
GND 10
GND 11
GND 12
VTR DD ON 13
CAM DD ON 14
GND 15
INDI 3.0V 16
INDI 3.0V 17
GND 18
J1 3.0V 19
J1 3.0V 20
GND 21
J2 3.0V 22
J2 3.0V 23
J2 3.0V 24
GND 25
SS 5.0V 26
SS 5.0V 27
GND 28
AUDIO 5.0V 29
AUDIO 5.0V GND 30
AUDIO 3.3V 31
GND 32
AUDIO 3.0V 33
AUDIO 3.0V GND 34
SS 15V 35
GND 36
SS 3.3V 37
GND 38
LED 5.0V 39
GND 40
TO DD-75 BOARD CN001 (SEE PAGE 4-121)
AUDIO 3.0V
TO JC-15 ⑦ BOARD (2/7) (SEE PAGE 4-7)
J GND
INDI 3.3V
R4/P0.1


11
12
13
14
15
16
17
18
19
20
21
IC501
IC501 MB89098BPFV-G-148-BND
MODE CONTROL
IC502
IC502 TC7W125FU
BUFFER
Q504, 505 SWITCH
Q504 2SB1622
Q505 2SB1462
28 TO JC-15 BOARD (1/7) (SEE PAGE 4-4)
26 TO JC-15 BOARD (6/7) (SEE PAGE 4-17)
17 TO JC-15 BOARD (3/7) (SEE PAGE 4-9)
7 TO JC-15 BOARD (2/7) (SEE PAGE 4-7)
21 TO JC-15 BOARD (7/7) (SEE PAGE 4-20)
24 TO JC-15 BOARD (5/7) (SEE PAGE 4-16)
11 TO JC-15 BOARD (2/7) (SEE PAGE 4-8)
23 TO JC-15 BOARD (5/7) (SEE PAGE 4-16)
6 TO JC-15 BOARD (1/7) (SEE PAGE 4-5)
VDD
LI 3V
SS 3.3V
SS GND
SSL 3.3V
EVER 3.3V
J GND
J2 3V
AUDIO 3.0V
IN01 3.3V
A GND
AUDIO 5.0V
J1 3V
CN502 40P
LN0508 GND
LN0507 GND
L506 10mH
L521 10mH
R4/P0.1

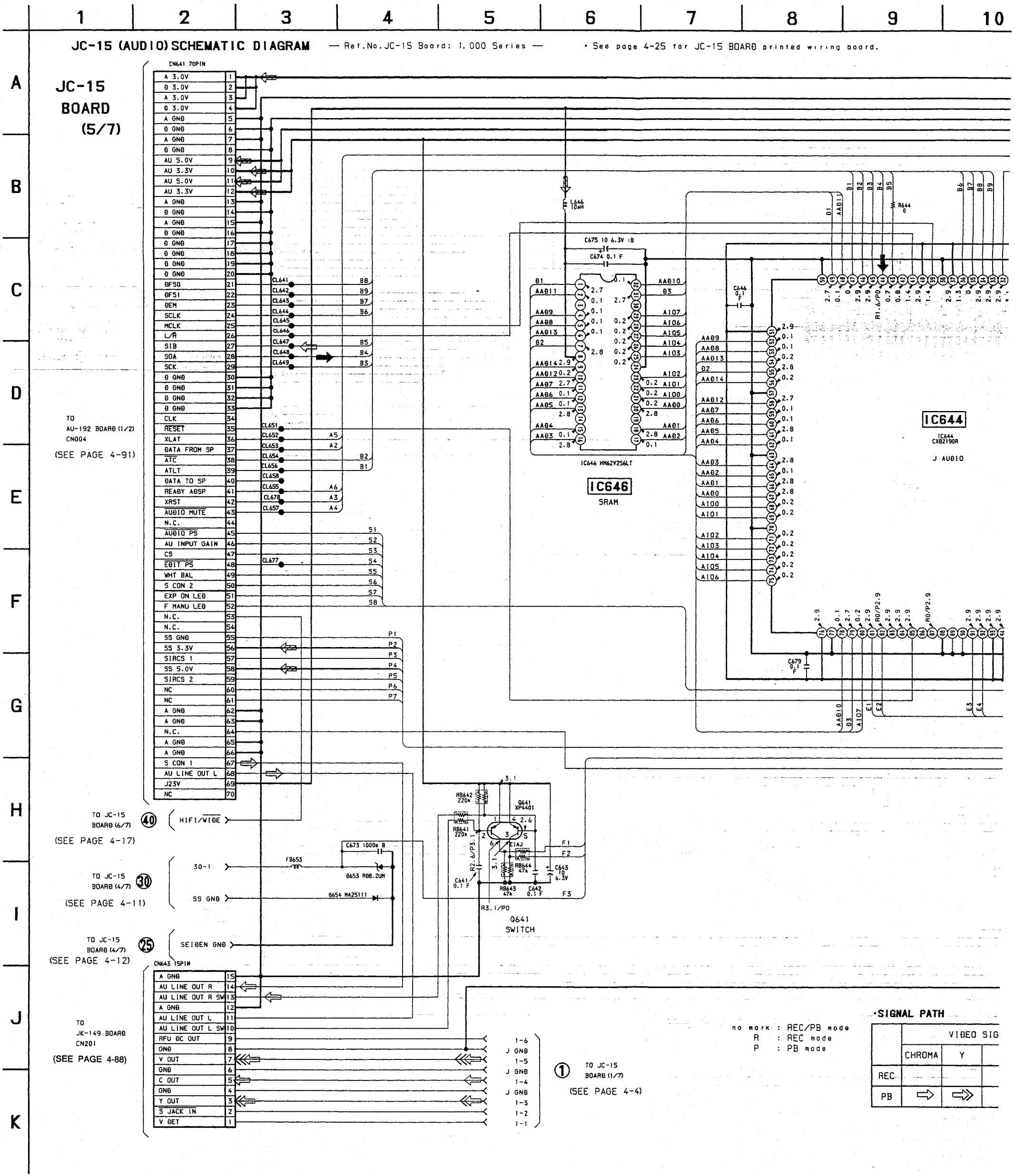
JC-15 BOARD (4/7)

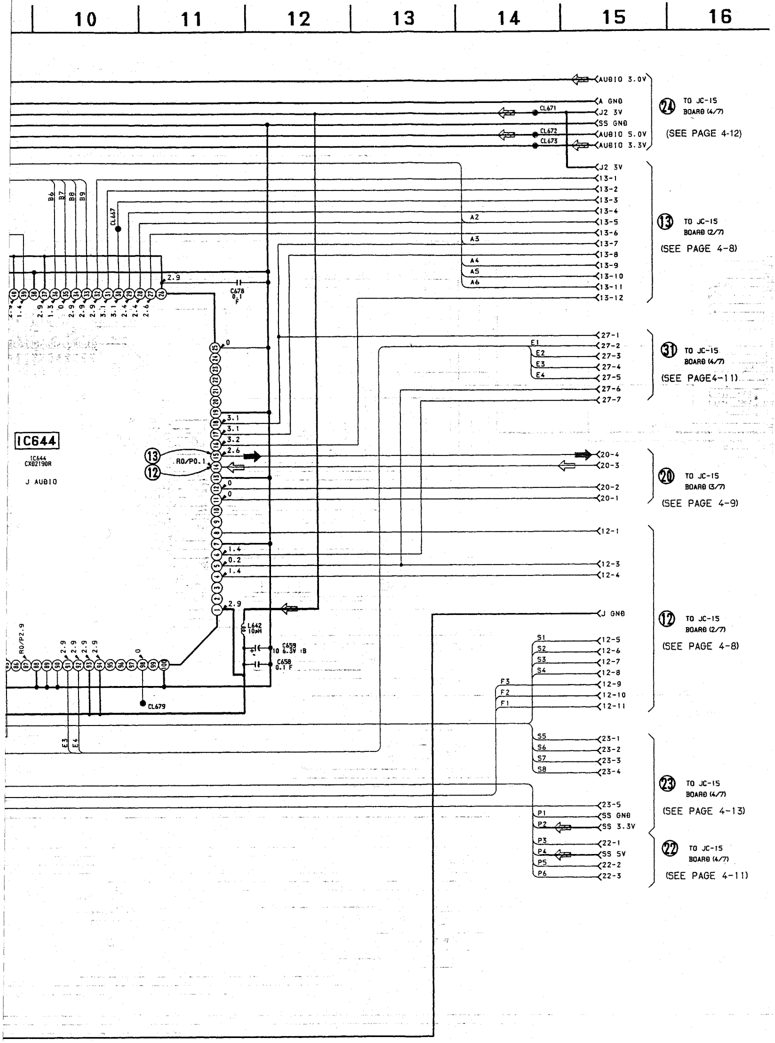


JC-15 (AUDIO) SCHEMATIC DIAGRAM

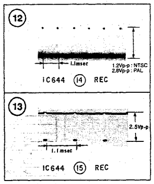
— Ref.No.JC-15 Board; 1,000 Series —

• See page 4-25 for JC-15 BOARD printed wiring board.


1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
G
H
I
J
K
JC-15 BOARD (5/7)
CN641 70PIN
1 A 3.0V
2 D 3.0V
3 A 3.0V
4 D 3.0V
5 A GND
6 D GND
7 A GND
8 D GND
9 AU 5.0V
10 AU 3.3V
11 AU 5.0V
12 AU 3.3V
13 A GND
14 D GND
15 A GND
16 D GND
17 D GND
18 D GND
19 D GND
20 D GND
21 DFS0
22 DFS1
23 DEM
24 SCLK
25 MCLK
26 L/R
27 SID
28 SDA
29 SCK
30 D GND
31 D GND
32 D GND
33 D GND
34 CLK
35 RESET
36 XLAT
37 DATA FROM SP
38 ATC
39 ATLT
40 DATA TO SP
41 READY ADSP
42 XRST
43 AUDIO MUTE
44 N.C.
45 AUDIO PS
46 AU INPUT GAIN
47 CS
48 EDIT PS
49 WHT BAL
50 S CON 2
51 EXP ON LED
52 F MANU LED
53 N.C.
54 N.C.
55 SS GND
56 SS 3.3V
57 SIRCS 1
58 SS 5.0V
59 SIRCS 2
60 NC
61 NC
62 A GND
63 A GND
64 N.C.
65 A GND
66 A GND
67 S CON 1
68 AU LINE OUT L
69 J23V
70 NC
TO AU-192 BOARD (1/2) CN004
(SEE PAGE 4-91)
CL641
CL642
CL643
CL644
CL645
CL646
CL647
CL648
CL649
CL651
CL652
CL653
CL654
CL656
CL658
CL655
CL678
CL657
CL677
B8
B9
B7
B6
B5
B4
B3
A5
A2
B2
B1
A6
A3
A4
S1
S2
S3
S4
S5
S6
S7
S8
P1
P2
P3
P4
P5
P6
P7
L646 10μH
C675 10 6.3V :B
C674 0.1 F
IC646 HM62V256LT
IC646
SRAM
C646 0.1 F
IC644
IC644 CXD2190R
J AUDIO
R644 0
C679 0.1 F
TO JC-15 BOARD (6/7)
40
HIFI/WIDE
(SEE PAGE 4-17)
TO JC-15 BOARD (4/7)
30
30-1
SS GND
(SEE PAGE 4-11)
TO JC-15 BOARD (4/7)
25
SEIDEN GND
(SEE PAGE 4-12)
C673 1000p B
FB653
D653 RD8.2UM
D654 MA25111
RB642 220k
RB641 220k
Q641 XP4401
RB644 47k
RB643 47k
C641 0.1 F
C642 0.1 F
C643 10 6.3V
F1
F2
F3
R3.1/P0
Q641 SWITCH
CN643 15PIN
15 A GND
14 AU LINE OUT R
13 AU LINE OUT R SW
12 A GND
11 AU LINE OUT L
10 AU LINE OUT L SW
9 RFU DC OUT
8 GND
7 V OUT
6 GND
5 C OUT
4 GND
3 Y OUT
2 S JACK IN
1 V DET
TO JK-149 BOARD CN201
(SEE PAGE 4-88)
1-6
J GND
1-5
J GND
1-4
J GND
1-3
1-2
1-1
1
TO JC-15 BOARD (1/7)
(SEE PAGE 4-4)
•SIGNAL PATH
no mark : REC/PB mode
R : REC mode
P : PB mode
VIDEO SIG
CHROMA
Y
REC
PB


10
11
12
13
14
15
16
AUDIO 3.0V
A GND
J2 3V
SS GND
AUDIO 5.0V
AUDIO 3.3V
CL671
CL672
CL673
㉔ TO JC-15 BOARD (4/7)
(SEE PAGE 4-12)
J2 3V
13-1
13-2
13-3
13-4
13-5
13-6
13-7
13-8
13-9
13-10
13-11
13-12
A2
A3
A4
A5
A6
B6
B7
B8
B9
CL667
⑬ TO JC-15 BOARD (2/7)
(SEE PAGE 4-8)
2.9
C678 0.1 F
27-1
27-2
27-3
27-4
27-5
27-6
27-7
E1
E2
E3
E4
㉛ TO JC-15 BOARD (4/7)
(SEE PAGE4-11)
IC644
IC644 CXD2190R
J AUDIO
⑬
⑫
RO/PO.1
3.1
3.1
3.2
2.6
0
0
0
20-4
20-3
20-2
20-1
⑳ TO JC-15 BOARD (3/7)
(SEE PAGE 4-9)
12-1
1.4
0.2
1.4
12-3
12-4
2.9
L642 10μH
C659 10 6.3V :B
C658 0.1 F
J GND
⑫ TO JC-15 BOARD (2/7)
(SEE PAGE 4-8)
S1
S2
S3
S4
12-5
12-6
12-7
12-8
F3
F2
F1
12-9
12-10
12-11
RO/P2.9
2.9
2.9
2.9
2.9
0
CL679
S5
S6
S7
S8
23-1
23-2
23-3
23-4
㉓ TO JC-15 BOARD (4/7)
(SEE PAGE 4-13)
23-5
P1
P2
SS GND
SS 3.3V
P3
P4
P5
P6
22-1
SS 5V
22-2
22-3
㉒ TO JC-15 BOARD (4/7)
(SEE PAGE 4-11)

JC-15 BOARD (5/7)



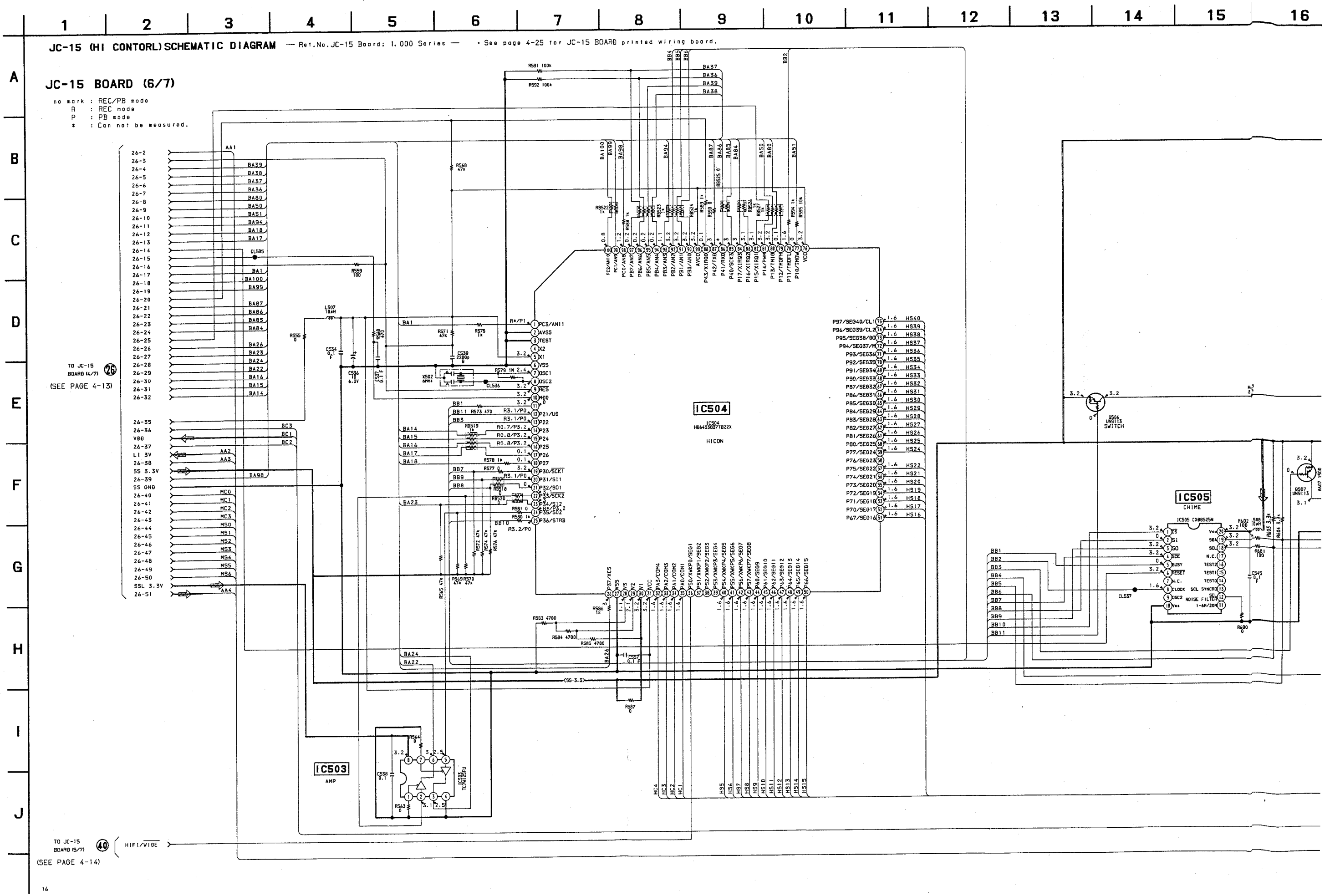
L PATH

VIDEO SIGNAL			AUDIO SIGNAL
CHROMA	Y	Y/CHROMA	
			➡
⇨	⇨⇨	⇨⇨⇨	⇨

JC-15 (HI CONTORL) SCHEMATIC DIAGRAM — Ref.No.JC-15 Board: 1,000 Series — • See page 4-25 for JC-15 BOARD printed wiring board.

JC-15 BOARD (6/7)

no mark : REC/PB mode
R : REC mode
P : PB mode
* : Can not be measured.



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A
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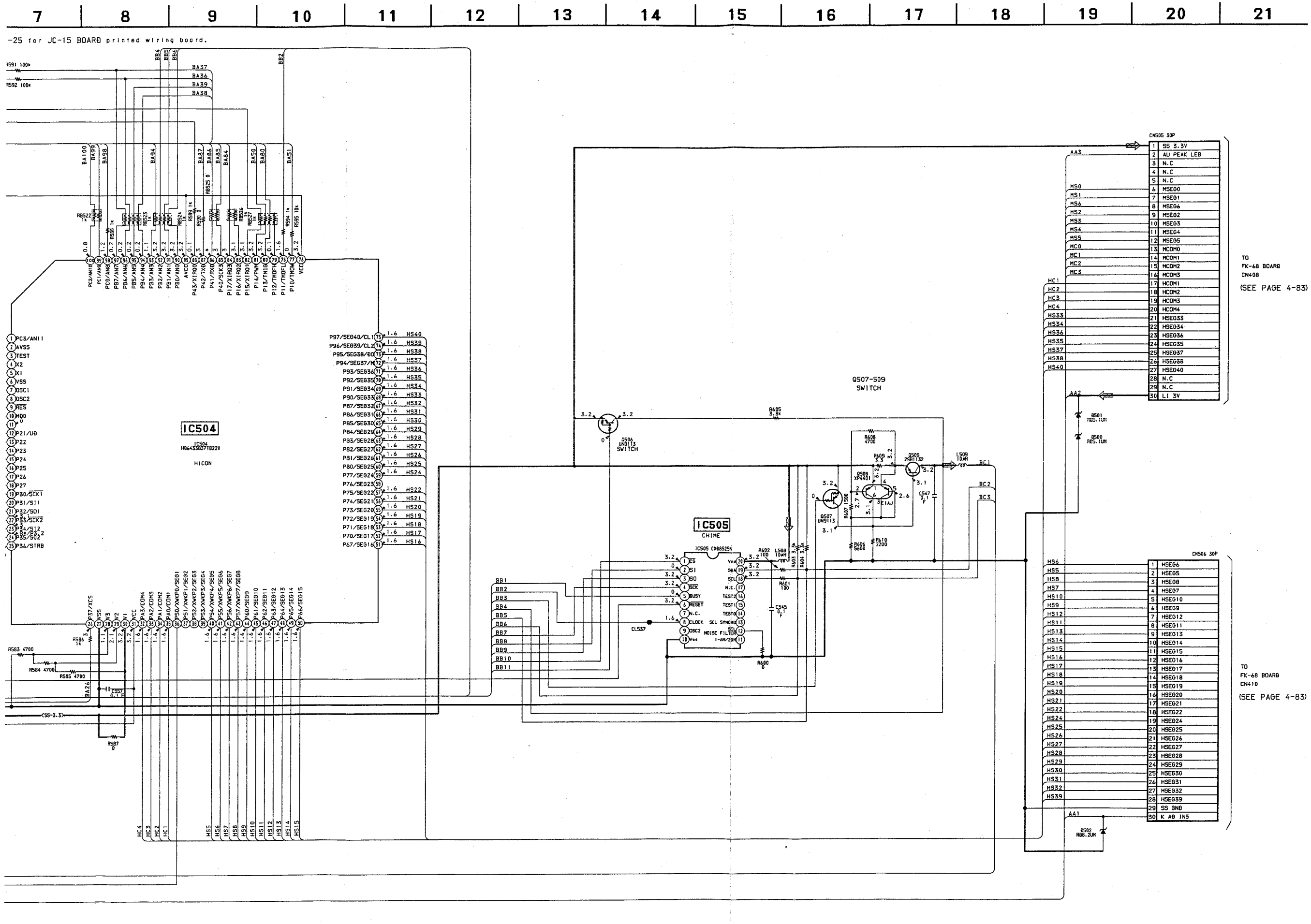
E
F
G
H
I
J
TO JC-15 BOARD (4/7) ㉖
(SEE PAGE 4-13)
VDD
L1 3V
SS 3.3V
SS GND
SSL 3.3V
IC504
IC504 HD6433837?B22X
HICON
IC505
CHIME
IC505 CX08525N
NOISE FILTER
IC503
AMP
X502 8MHz
Q506 UN9113 SWITCH
Q507 UN9113
TO JC-15 BOARD (5/7) ㊵
(SEE PAGE 4-14)
HIFI/WIDE

-25 for JC-15 BOARD printed wiring board.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16
17
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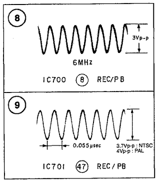
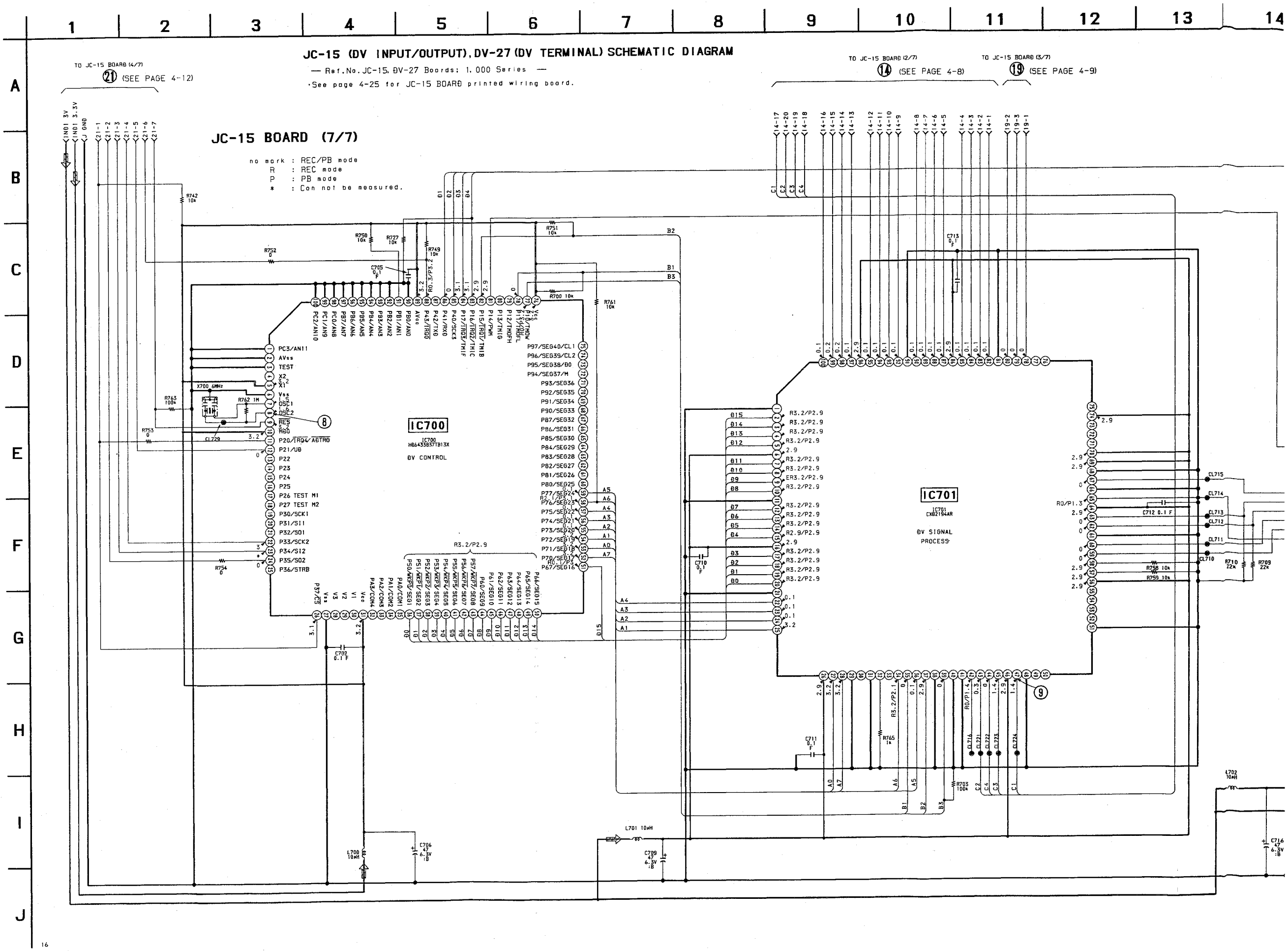
19
20
21
IC504
IC504 HD6433837B22X
HICON
IC505
CHIME
IC505 CX08525N
Q507-509
SWITCH
Q506 UN9113 SWITCH
Q507 UN9113
Q508 XP4401
Q509 2SB1132
CN505 30P
1 SS 3.3V
2 AU PEAK LED
3 N.C
4 N.C
5 N.C
6 MSEG0
7 MSEG1
8 MSEG6
9 MSEG2
10 MSEG3
11 MSEG4
12 MSEG5
13 MCOM0
14 MCOM1
15 MCOM2
16 MCOM3
17 HCOM1
18 HCOM2
19 HCOM3
20 HCOM4
21 HSEG33
22 HSEG34
23 HSEG36
24 HSEG35
25 HSEG37
26 HSEG38
27 HSEG40
28 N.C
29 N.C
30 L1 3V
TO FK-68 BOARD CN408
(SEE PAGE 4-83)
CN506 30P
1 HSEG6
2 HSEG5
3 HSEG8
4 HSEG7
5 HSEG10
6 HSEG9
7 HSEG12
8 HSEG11
9 HSEG13
10 HSEG14
11 HSEG15
12 HSEG16
13 HSEG17
14 HSEG18
15 HSEG19
16 HSEG20
17 HSEG21
18 HSEG22
19 HSEG24
20 HSEG25
21 HSEG26
22 HSEG27
23 HSEG28
24 HSEG29
25 HSEG30
26 HSEG31
27 HSEG32
28 HSEG39
29 SS GND
30 K A0 IN5
TO FK-68 BOARD CN410
(SEE PAGE 4-83)
D501 RB5.1UM
D500 RB5.1UM
D502 RB8.2UM
L509 10uH
BC1
BC2
BC3
AA1
AA2
AA3
CL537
SS-3.3

HI CONTROL
JC-15 (6/7)

JC-15 BOARD (7/7)

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A
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C
D
E
F
G
H
I
J
TO JC-15 BOARD (4/7)
㉑ (SEE PAGE 4-12)
TO JC-15 BOARD (2/7)
⑭ (SEE PAGE 4-8)
TO JC-15 BOARD (3/7)
⑲ (SEE PAGE 4-9)
JC-15 BOARD (7/7)
IC700
IC700 H8/4338S37TB13X
DV CONTROL
IC701
IC701 CXD2194AR
DV SIGNAL PROCESS
X700 6MHz
R742 10k
R750 10k
R727 10k
R749 10k
R751 10k
R752 0
R761 10k
R763 100k
R762 1M
R753 0
R754 0
R700 10k
R765 1k
R703 100k
R710 22k
R709 22k
R758 10k
R759 10k
C705 0.1 F
C713 0.1 F
C702 0.1 F
C710 0.1 F
C711 0.1 F
C712 0.1 F
C706 47 6.3V
C709 47 6.3V
C716 47 6.3V
L700 10μH
L701 10μH
L702 10μH
CL729
CL710
CL711
CL712
CL713
CL714
CL715
CL716
CL721
CL722
CL723
CL724
B1
B2
B3
A0
A1
A2
A3
A4
A5
A6
A7
C1
C2
C3
C4
D1
D2
D3
D4
R3.2/P2.9
16

JC-15 (DV INPUT/OUTPUT), DV-27 (DV TERMINAL) SCHEMATIC DIAGRAM

— Ref. No. JC-15, DV-27 Boards; 1,000 Series —

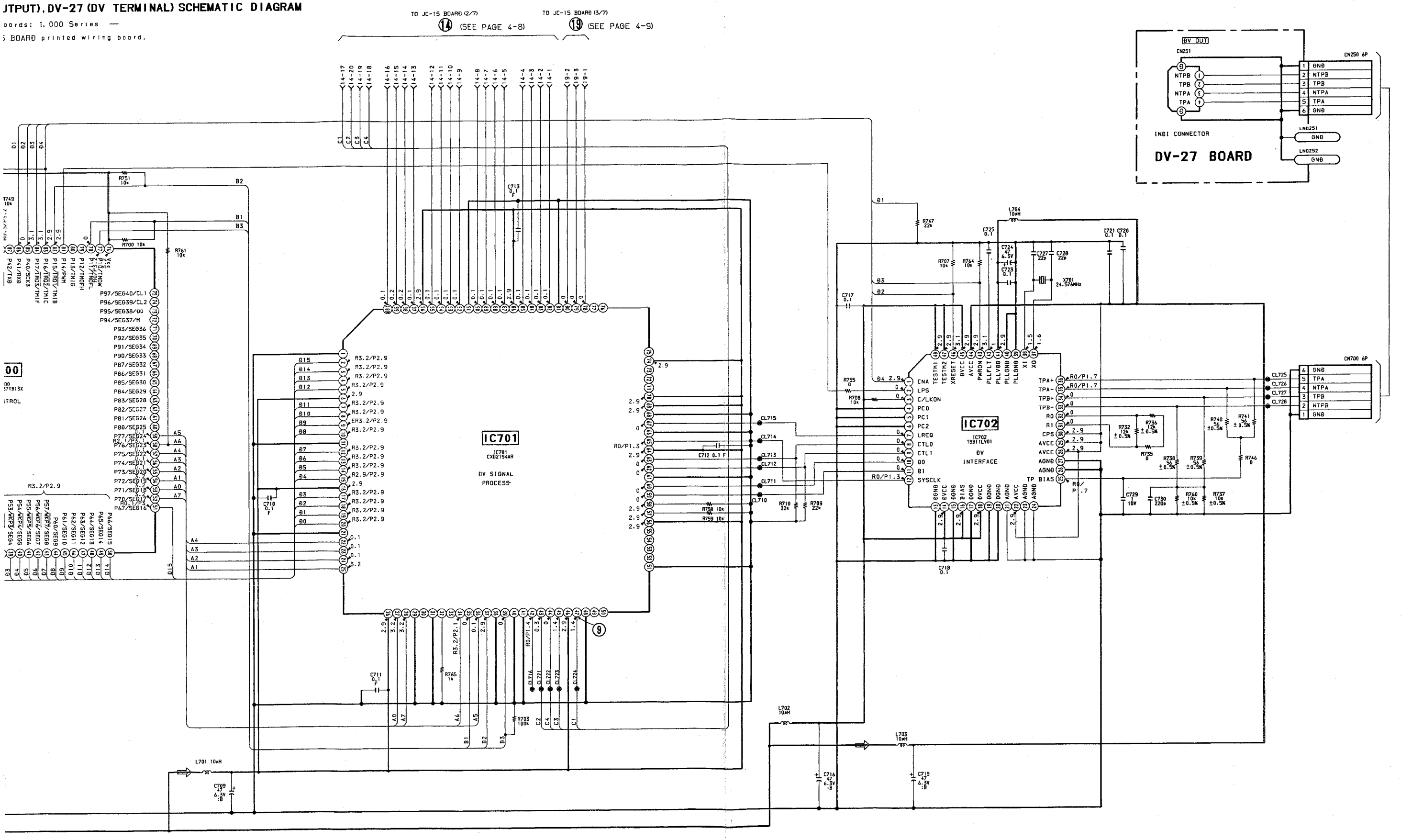
· See page 4-25 for JC-15 BOARD printed wiring board.

no mark : REC/PB mode
R : REC mode
P : PB mode
* : Can not be measured.

5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20

JTPUT), DV-27 (DV TERMINAL) SCHEMATIC DIAGRAM

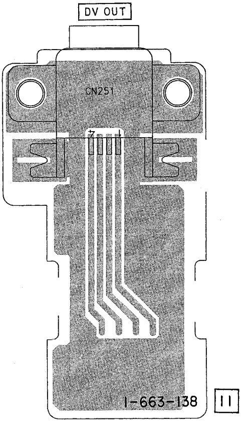
oords: 1,000 Series —
5 BOARD printed wiring board.


TO JC-15 BOARD (2/7)
⑭ (SEE PAGE 4-8)
TO JC-15 BOARD (3/7)
⑲ (SEE PAGE 4-9)
IC701
CXD2194AR
DV SIGNAL PROCESS
IC702
TSB11LV01
DV INTERFACE
DV OUT
CN251
NTPB
TPB
NTPA
TPA
CN250 6P
GND
NTPB
TPB
NTPA
TPA
GND
IN01 CONNECTOR
LN0251
LN0252
DV-27 BOARD
CN700 6P
GND
TPA
NTPA
TPB
NTPB
GND
X701 24.576MHz
L701 10μH
L702 10μH
L703 10μH
L704 10μH
C709 47 6.3V
C716 47 6.3V
C719 47 6.3V
R751 10k
R700 10k
R761 10k
R747 22k
R765 1k
R703 100k
R710 22k
R709 22k
R758 10k
R759 10k
C713 0.1
C710 0.1
C711 0.1
C712 0.1
C717 0.1
C718 0.1
C725 0.1
C729 1 10V
C730 220p
C727 22p
C728 22p
CNA
LPS
C/LKON
PC0
PC1
PC2
LREQ
CTL0
CTL1
D0
D1
SYSCLK
TPA+
TPA-
TPB+
TPB-
R0
R1
CPS
AVCC
AGND
TP BIAS

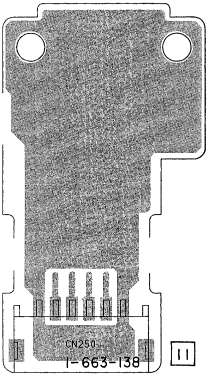
DV-27 (DV TERMINAL) PRINTED WIRING BOARD

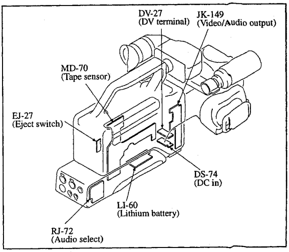
— Ref. No. DV-27 Board; 1,000 Series —

DV-27 BOARD (SIDE A)


DV OUT
CN251
7
1
1-663-138
11

DV-27 BOARD (SIDE B)


CN250
1-663-138
11


DV-27
(DV terminal)
JK-149
(Video/Audio output)
MD-70
(Tape sensor)
EJ-27
(Eject switch)
DS-74
(DC in)
LI-60
(Lithium battery)
RJ-72
(Audio select)

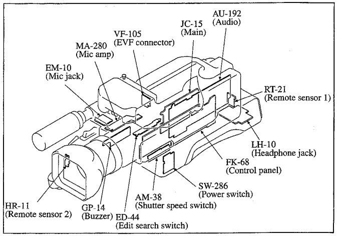
JC-15 BOARD

C400	C-14
C401	C-15
C402	B-14
C403	B-13
C404	A-14
C405	D-15
C406	A-13
C407	C-15
C408	A-15
C409	C-15
C411	C-14
C412	C-11
C413	B-1
C414	D-12
C415	C-2
C416	B-2
C417	D-1
C418	C-6
C419	D-2
C420	C-2
C421	C-1
C422	C-5
C423	B-13
C428	D-3
C429	C-6
C430	C-6
C431	D-4
C436	C-14
C437	C-14
C439	C-14
C440	C-14
C441	C-3
C442	C-14
C443	C-14
C444	C-14
C445	C-4
C447	C-5
C448	C-5
C449	B-14
C450	C-14
C451	B-14
C452	B-14
C453	B-13
C455	C-13
C456	D-12
C457	B-12
C458	B-13
C469	C-13
C471	B-14
C476	D-12
C478	B-12
C479	B-2
C480	D-3
C481	C-1
C482	C-3
C483	D-3
C500	C-5
C501	C-5
C502	B-5
C504	B-5
C505	B-5
C509	A-6
C510	A-6
C511	A-5
C512	A-6
C517	A-11
C518	B-11
C520	B-11
C521	B-7
C522	A-12
C523	A-12
C524	A-12
C525	B-11
C526	B-11
C527	A-12
C528	A-12
C529	A-12
C530	B-5
C532	C-4
C534	A-7
C536	A-7
C537	A-7
C538	B-10
C539	A-10
C545	A-5
C547	A-6
C556	B-6
C557	B-7
C641	D-16
C642	D-16
C643	C-16
C646	A-4
C658	B-3
C659	B-3
C673	A-10
C674	A-4
C675	A-3
C678	B-13
C679	A-3
C702	B-11
C705	D-11
C706	C-10
C709	C-8
C710	B-7
C711	B-7
C712	C-7
C713	C-8
C716	D-10
C717	D-8
C718	D-7
C719	D-10
C720	D-8
C721	D-9
C723	D-9
C724	D-10
C725	D-8
C727	D-9
C728	D-9
C729	D-9
C730	D-9
CN401	D-13
CN403	D-5
CN500	A-10
CN501	A-14
CN502	D-12
CN505	B-9
CN506	B-10
CN641	B-4
CN643	C-1
CN700	D-8
D401	C-14
D402	B-14
D403	C-14
D404	B-14
D500	C-9
D501	C-9
D502	C-10
D507	B-5
D508	B-5
D511	B-5
D512	B-5
D513	B-5
D653	A-10
D654	A-10
FB653	A-10
IC401	C-15
IC402	B-15
IC403	B-14
IC404	D-2
IC405	C-2
IC406	D-1
IC409	C-6
IC410	C-3
IC411	C-11
IC412	C-12
IC500	B-5
IC501	B-6
IC502	C-4
IC503	B-10
IC504	A-7
IC505	A-5
IC644	B-3
IC646	A-3
IC700	C-10
IC701	C-7
IC702	D-8
L401	C-6
L402	C-14
L403	C-14
L405	C-14
L406	C-14
L407	B-13
L409	C-14
L410	D-11
L411	D-13
L500	B-5
L501	D-6
L502	D-6
L503	D-11
L504	D-5
L505	D-11
L506	B-12
L507	A-11
L508	A-6
L509	A-6
L510	D-6
L511	D-12
L512	D-12
L513	D-5
L514	D-5
L516	A-11
L518	A-3
L519	A-3
L520	D-6
L521	C-4
L642	B-3
L646	A-3
L700	C-10
L701	C-8
L702	D-10
L703	D-10
L704	D-10
Q500	B-4
Q501	A-5
Q504	B-12
Q505	B-12
Q506	A-6
Q507	A-6
Q508	A-6
Q509	A-6
Q641	C-16
R401	D-15
R402	C-4
R410	C-16
R411	C-16
R412	C-15
R413	C-15
R414	C-3
R419	C-3
R420	D-4
R421	C-3
R422	D-4
R423	C-3
R424	D-4
R426	C-3
R427	C-3
R428	C-14
R429	C-14
R430	C-14
R431	B-5
R432	C-14
R433	C-14
R434	C-4
R435	C-4
R436	C-5
R437	C-14
R438	C-14
R439	B-14
R440	C-13
R441	C-14
R442	C-4
R443	C-4
R449	A-14
R450	A-14
R451	A-14
R453	B-4
R454	C-5
R455	D-4
R456	C-4
R457	D-3
R458	D-3
R459	D-3
R460	D-3
R461	A-14
R462	A-14
R463	A-14
R464	A-13
R466	B-14
R467	D-5
R468	C-5
R469	B-13
R470	C-4
R471	B-13
R472	C-6
R473	B-12
R474	B-14
R475	D-14
R476	D-13
R477	D-14
R478	D-3
R480	A-13
R481	B-14
R482	B-14
R500	A-2
R501	D-5
R503	B-4
R504	A-12
R505	B-4
R506	B-4
R507	A-4
R508	B-6
R510	A-12
R511	A-6
R512	A-6
R514	A-6
R515	A-5
R516	A-5
R517	A-5
R518	A-5
R519	A-5
R520	A-6
R521	A-5
R522	B-11
R523	A-6
R524	A-5
R525	B-7
R526	B-7
R527	B-6
R529	A-12
R530	A-12
R531	A-12
R532	B-5
R536	B-12
R537	B-11
R538	B-6
R539	B-6
R540	B-6
R541	B-6
R542	B-6
R543	B-6
R545	B-12
R546	C-14
R550	C-4
R551	C-4
R555	A-11
R559	A-11
R560	A-6
R563	B-10
R564	B-11
R565	B-11
R568	A-6
R569	B-11
R570	B-11
R571	A-11
R572	A-11
R573	A-6
R574	A-11
R575	A-6
R576	A-11
R577	A-10
R578	B-10
R579	A-10
R580	B-10
R581	B-10
R583	B-7
R584	B-7
R585	B-7
R586	B-7
R587	B-7
R588	A-11
R589	A-7
R590	A-7
R591	A-11
R592	A-11
R594	A-7
R595	A-7
R596	B-12
R597	B-5
R600	A-5
R601	A-5
R602	A-5
R603	A-5
R604	A-5
R605	A-6
R606	A-6
R607	A-6
R608	A-6
R609	A-6
R610	A-6
R644	B-4
R700	C-10
R703	C-6
R707	D-8
R708	D-7
R709	D-7
R710	D-7
R727	D-10
R732	D-8
R735	D-8
R736	D-8
R737	D-9
R738	D-9
R739	D-9
R740	D-9
R741	D-9
R742	B-11
R746	D-9
R747	D-9
R749	D-10
R750	C-11
R751	C-10
R752	B-11
R753	C-11
R754	B-11
R755	D-7
R758	D-10
R759	C-10
R760	D-9
R761	B-6
R762	C-6
R763	C-6
R764	D-8
R765	C-7
RB401	D-15
RB402	C-15
RB403	D-15
RB404	C-15
RB500	B-5
RB501	A-11
RB502	A-11
RB503	A-5
RB504	A-11
RB505	A-11
RB506	A-5
RB507	A-5
RB508	B-5
RB509	B-6
RB510	B-5
RB511	B-11
RB512	B-5
RB513	B-6
RB514	B-5
RB515	B-6
RB516	B-6
RB517	B-6
RB518	A-11
RB519	B-10
RB520	B-11
RB522	A-11
RB523	A-11
RB524	A-7
RB525	A-7
RB526	A-7
RB527	A-7
RB641	C-16
RB642	C-16
RB643	C-16
RB644	C-16
X401	C-4
X402	C-5
X500	A-11
X501	B-11
X502	A-10
X700	C-6
X701	D-9

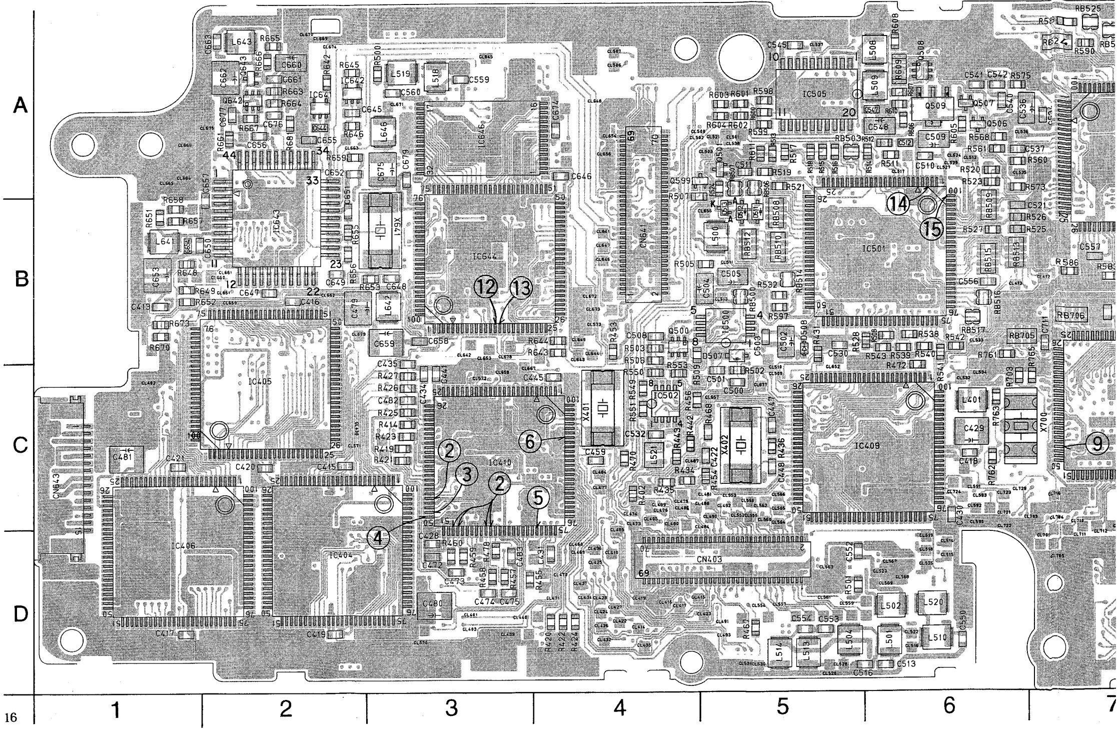
JC-15 (MAIN) PRINTED WIRING BOARD

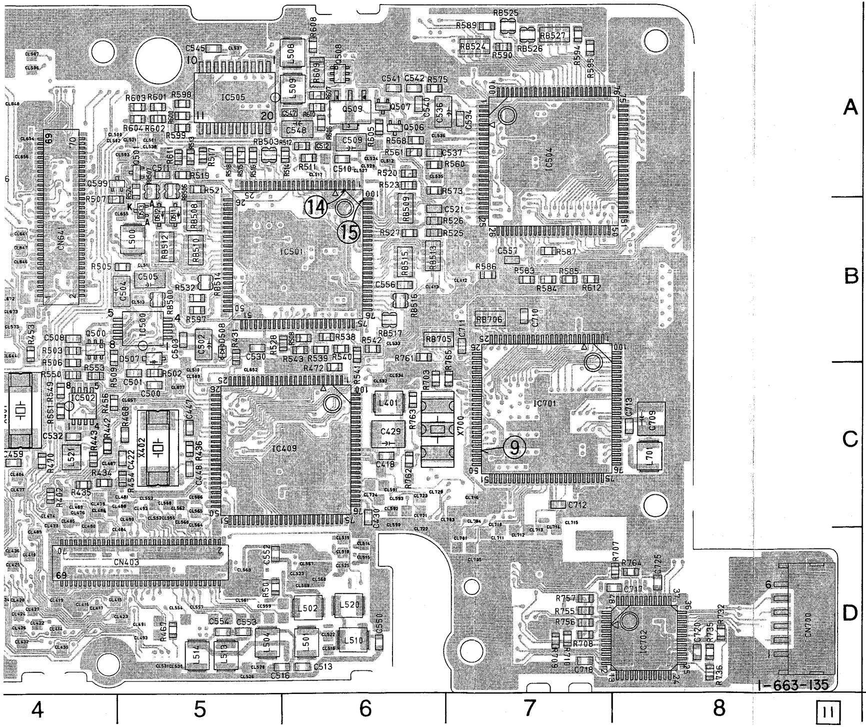
— Ref. No. JC-15 Board; 1,000 Series —

There are few cases that the part printed on this diagram isn't mounted in this model.

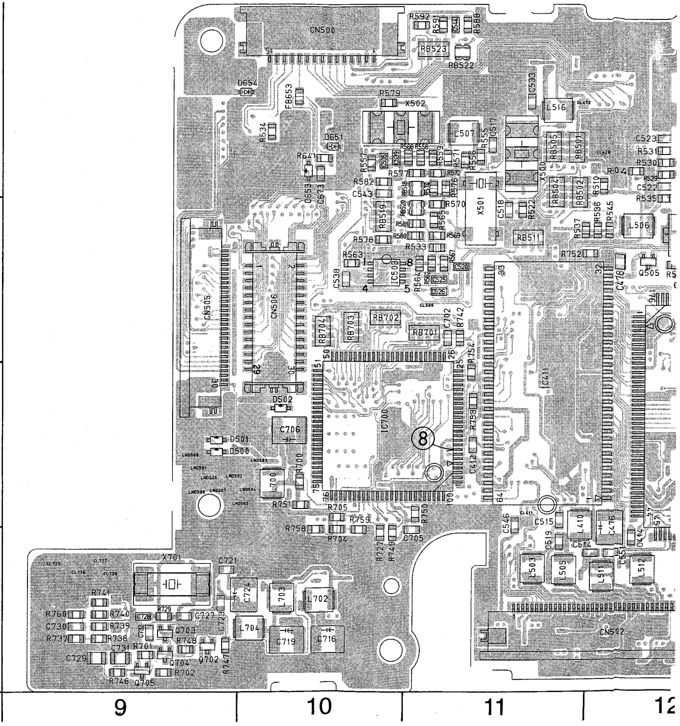

AU-192
(Audio)
JC-15
(Main)
VF-105
(EVF connector)
MA-280
(Mic amp)
EM-10
(Mic jack)
RT-21
(Remote sensor 1)
LH-10
(Headphone jack)
FK-68
(Control panel)
SW-286
(Power switch)
AM-38
(Shutter speed switch)
HR-11
(Remote sensor 2)
GP-14
(Buzzer)
ED-44
(Edit search switch)

JC-15 BOARD (SIDE A)

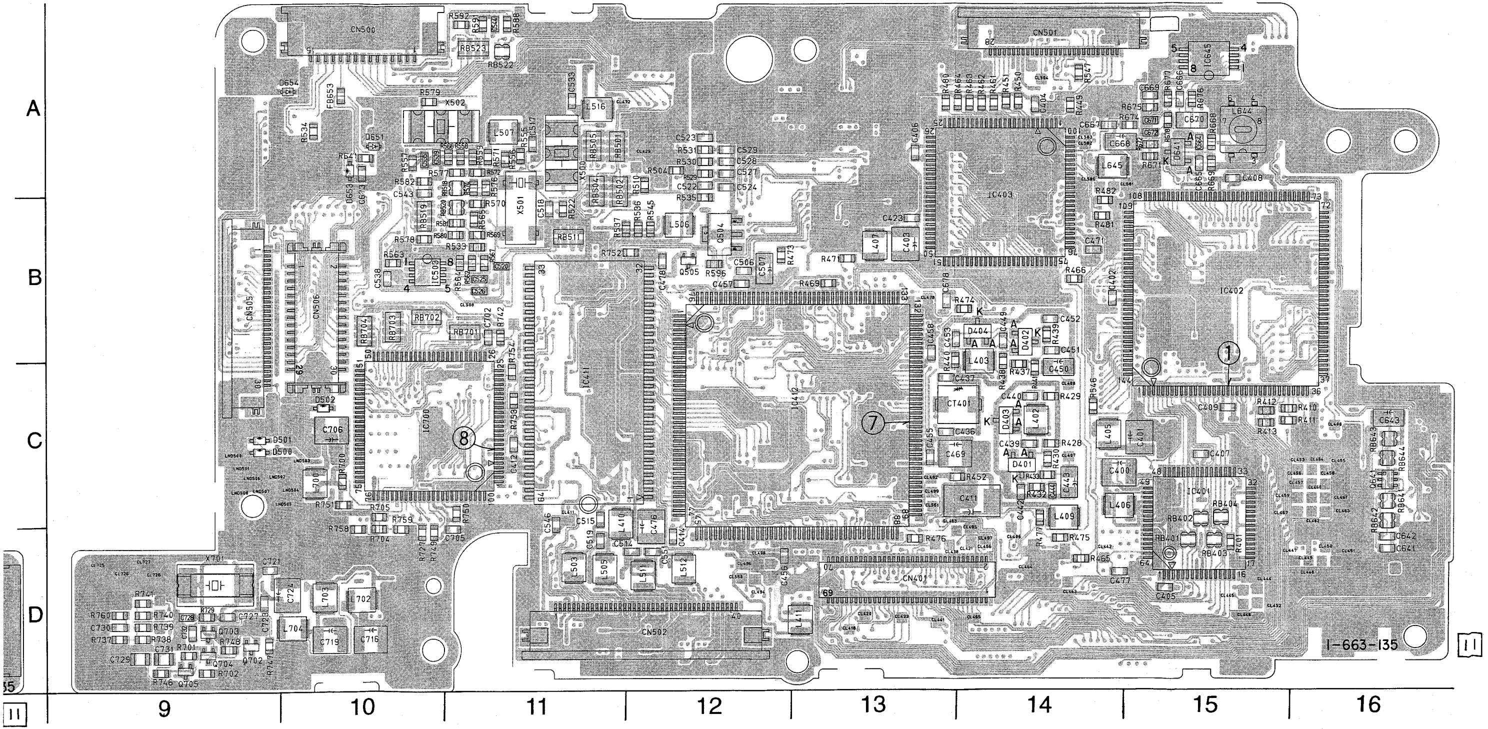

A
B
C
D
16
1
2
3
4
5
6
7
IC643
IC646
IC644
CN644
IC505
IC501
IC405
IC410
IC409
IC406
IC404
CN403
CN643
X401
X402
X641
X700
IC500
IC502
L401
L502
L520
L510
⑫
⑬
⑭
⑮
②
③
④
⑤
⑥
⑨


A
B
C
D
4
5
6
7
8
11
IC505
IC504
IC501
IC500
IC502
IC409
IC701
IC702
CN641
CN403
CN700
X402
X700
14
15
9
1-663-135

JC-15 BOARD (SIDE B)


9
10
11
12
CN500
CN505
CN506
CN502
IC700
IC503
IC411
X501
X502
X701
8

JC-15 BOARD (SIDE B)

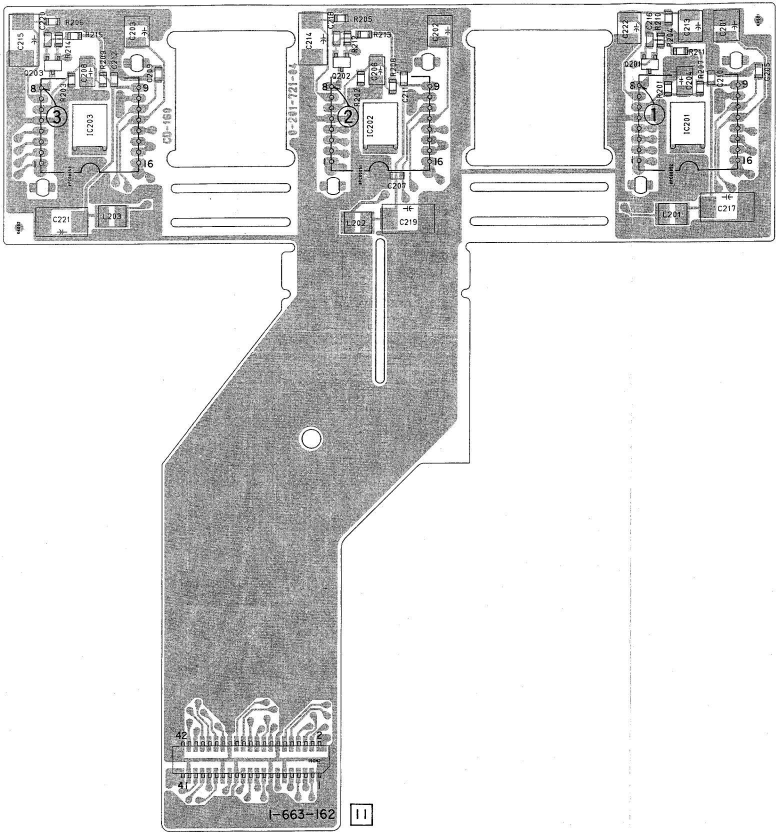

A
B
C
D
9
10
11
12
13
14
15
16
CN500
CN501
CN502
CN401
CN505
CN506
IC700
IC412
IC403
IC402
IC401
IC503
IC645
IC411
CT401
X500
X501
X502
X701
①
⑦
⑧
1-663-135
11

CD-160 (CCD IMAGER) PRINTED WIRING BOARD

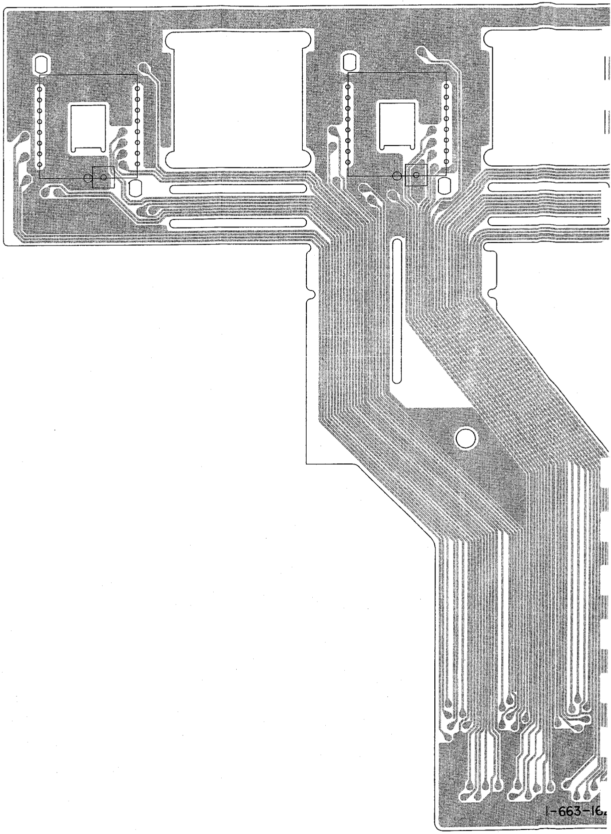
— Ref. No. CD-160 Board; 8,000 Series —

There are few cases that the part printed on this diagram isn't mounted in this model.

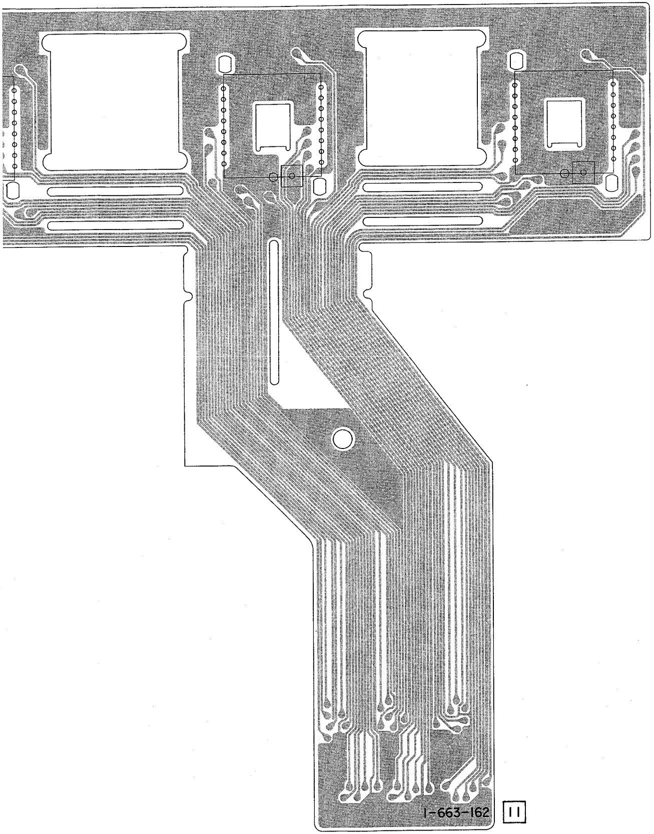
CD-160 BOARD (SIDE A)


C220
R206
R215
C215
R214
R209
C212
C203
Q203
C208
C209
R203
8
9
3
IC203
1
16
C221
L203
CD-160
C218
R205
R213
C214
R212
C202
Q202
C206
R208
R202
C211
2
IC202
C207
L202
C219
C222
C216
R210
C213
C201
R204
R211
Q201
R201
C204
R207
C210
C205
1
IC201
L201
C217
42
2
41
1
1-663-162
11

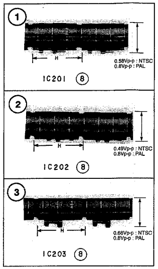
CD-160 BOARD (SIDE B)

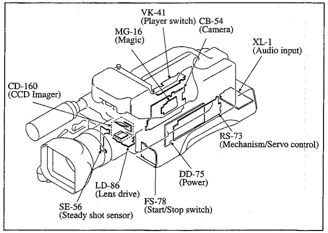


E B)



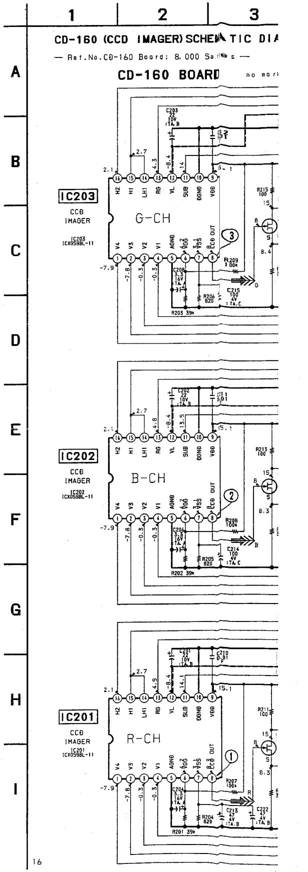
CD-160 BOARD (CAMERA REC)



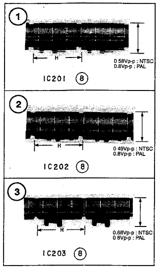

VK-41
(Player switch)
CB-54
(Camera)
MG-16
(Magic)
XL-1
(Audio input)
CD-160
(CCD Imager)
RS-73
(Mechanism/Servo control)
DD-75
(Power)
LD-86
(Lens drive)
FS-78
(Start/Stop switch)
SE-56
(Steady shot sensor)

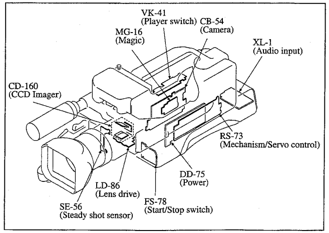
Precautions Upon Replacing CCD Imager

- The CD-160 board mounted as a repair part is not equipped with a CCD imager.
  When replacing this board, remove the CCD imager from the old one and mount it onto the new one.
- If the CCD imager has been replaced, carry out all the adjustments for the camera section.
- As the CCD imager may be damaged by static electricity from its structure, handle it carefully like for the MOS IC.
  In addition, ensure that the receiver is not covered with dusts nor exposed to strong light.


1
2
3
A
B
C
D
E
F
G
H
I
CD-160 (CCD IMAGER) SCHEMATIC DIA
— Ref.No.CD-160 Board; 8,000 Series —
CD-160 BOARD
no mark
IC203
CCD IMAGER
IC203 ICX059BL-11
G-CH
IC202
CCD IMAGER
IC202 ICX059BL-11
B-CH
IC201
CCD IMAGER
IC201 ICX059BL-11
R-CH
H2
H1
LH1
RG
VL
SUB
DGND
VDD
V4
V3
V2
V1
AGND
VGG
VSS
CCD OUT
C203 22 10V :TA.B
C202 22 10V :TA.B
C201 22 10V :TA.B
R215 100
R213 100
R211 100
R209 100k
R208 100k
R207 100k
R206 820
R205 820
R204 820
R203 39k
R202 39k
R201 39k
C215 100 4V :TA.C
C214 100 4V :TA.C
C213 47 4V :TA.B
C222 47 4V :TA.B
C210 0.01
2.7
2.1
-7.9
-7.8
-0.3
15
8.4
8.3
16

CD-160 BOARD (CAMERA REC)



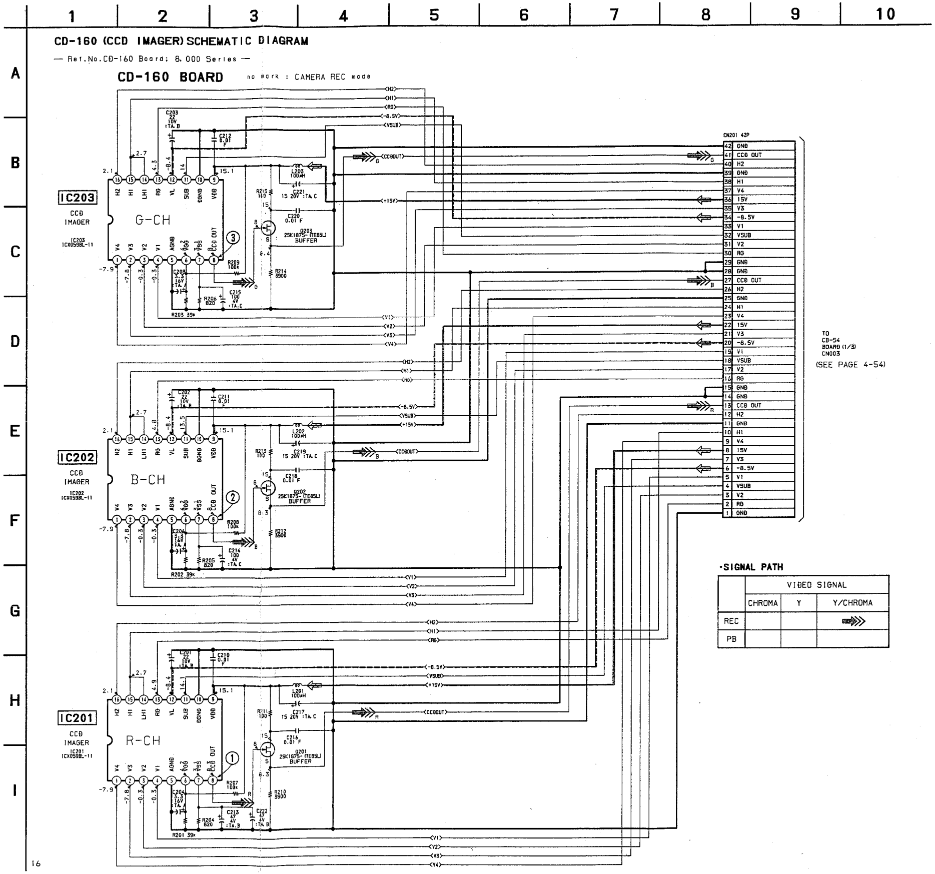

VK-41
(Player switch)
CB-54
(Camera)
MG-16
(Magic)
XL-1
(Audio input)
CD-160
(CCD Imager)
RS-73
(Mechanism/Servo control)
DD-75
(Power)
LD-86
(Lens drive)
SE-56
(Steady shot sensor)
FS-78
(Start/Stop switch)

Precautions Upon Replacing CCD Imager

- The CD-160 board mounted as a repair part is not equipped with a CCD imager.
  When replacing this board, remove the CCD imager from the old one and mount it onto the new one.
- If the CCD imager has been replaced, carry out all the adjustments for the camera section.
- As the CCD imager may be damaged by static electricity from its structure, handle it carefully like for the MOS IC.
  In addition, ensure that the receiver is not covered with dusts nor exposed to strong light.

CD-160 (CCD IMAGER) SCHEMATIC DIAGRAM

— Ref.No.CD-160 Board; 8,000 Series —


1
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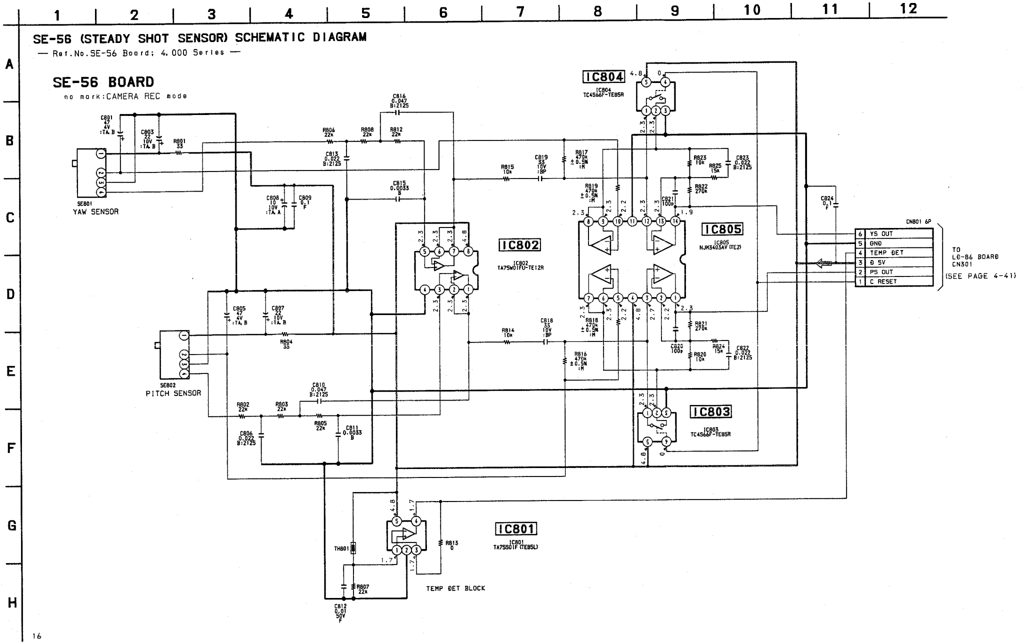
4
5
6
7
8
9
10
A
B
C
D
E
F
G
H
I
CD-160 BOARD
no mark : CAMERA REC mode
IC203
CCD IMAGER
IC203 ICX059BL-11
G-CH
IC202
CCD IMAGER
IC202 ICX059BL-11
B-CH
IC201
CCD IMAGER
IC201 ICX059BL-11
R-CH
H2
H1
LH1
RG
VL
SUB
OGND
VDD
V4
V3
V2
V1
AGND
VGG
VSS
CCD OUT
Q203 2SK1875-(TE85L) BUFFER
Q202 2SK1875-(TE85L) BUFFER
Q201 2SK1875-(TE85L) BUFFER
C203 22 10V :TA B
C212 0.01 F
L203 100μH
C221 15 20V :TA C
C220 0.01 F
R215 100
R209 100k
R214 3900
C208 3.3 16V :TA A
R206 820
C215 100 4V :TA C
R203 39k
C202 22 10V :TA B
C211 0.01 F
L202 100μH
R213 100
C219 15 20V :TA C
C218 0.01 F
R208 100k
R212 3900
C206 3.3 16V :TA A
R205 820
C214 100 4V :TA C
R202 39k
C201 22 10V :TA B
C210 0.01 F
L201 100μH
R211 100
C217 15 20V :TA C
C216 0.01 F
R207 100k
R210 3900
C204 3.3 16V :TA A
R204 820
C213 47 4V :TA B
C222 47 4V :TA B
R201 39k
2.1
2.7
-8.4
15.1
15
8
5
6.3
-7.9
-7.8
-0.3
<H2>
<H1>
<RG>
<-8.5V>
<VSUB>
<+15V>
<CCDOUT>
<V1>
<V2>
<V3>
<V4>
G
B
R
CN201 42P
42 GND
41 CCD OUT
40 H2
39 GND
38 H1
37 V4
36 15V
35 V3
34 -8.5V
33 V1
32 VSUB
31 V2
30 RG
29 GND
28 GND
27 CCD OUT
26 H2
25 GND
24 H1
23 V4
22 15V
21 V3
20 -8.5V
19 V1
18 VSUB
17 V2
16 RG
15 GND
14 GND
13 CCD OUT
12 H2
11 GND
10 H1
9 V4
8 15V
7 V3
6 -8.5V
5 V1
4 VSUB
3 V2
2 RG
1 GND
TO CB-54 BOARD (1/3) CN003
(SEE PAGE 4-54)
16

·SIGNAL PATH

	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC			⇛
PB			

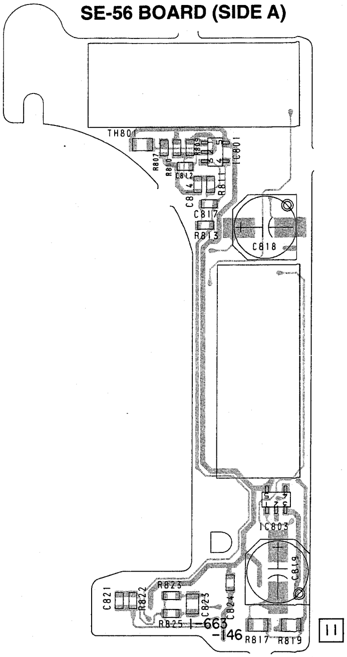
SE-56 (STEADY SHOT SENSOR) SCHEMATIC DIAGRAM

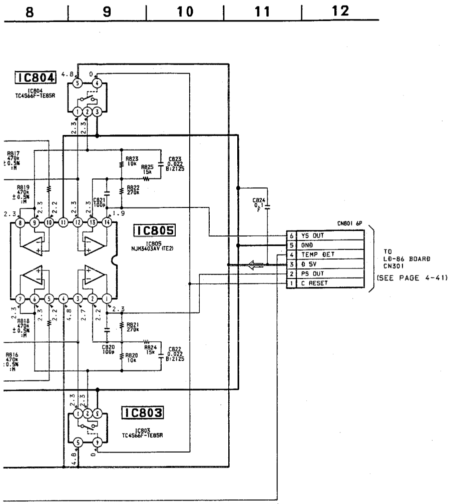
— Ref.No.SE-56 Board; 4,000 Series —


1
2
3
4
5
6
7
8
9
10
11
12
A
B
C
D
E
F
G
H
SE-56 BOARD
no mark:CAMERA REC mode
C801 47 4V :TA B
C803 22 10V :TA B
R801 33
SE801
YAW SENSOR
C816 0.047 B:2125
R806 22k
R808 22k
R812 22k
C813 0.022 B:2125
C815 0.0033 B
C808 10 10V :TA A
C809 0.1 F
IC802
IC802 TA75W01FU-TE12R
R815 10k
C819 33 10V :BP
R817 470k ±0.5% :M
R819 470k ±0.5% :M
IC804
IC804 TC4S66F-TE85R
R823 10k
R825 15k
C823 0.022 B:2125
R822 270k
C821 100p
IC805
IC805 NJM3403AV (TE2)
C824 0.1 F
CN801 6P
6 YS OUT
5 GND
4 TEMP DET
3 D 5V
2 PS OUT
1 C RESET
TO LO-86 BOARD CN301 (SEE PAGE 4-41)
C805 47 4V :TA B
C807 22 10V :TA B
R804 33
SE802
PITCH SENSOR
R814 10k
C818 33 10V :BP
R818 470k ±0.5% :M
R816 470k ±0.5% :M
R821 270k
C820 100p
R824 15k
R820 10k
C822 0.022 B:2125
C810 0.047 B:2125
R802 22k
R803 22k
R805 22k
C811 0.0033 B
C806 0.022 B:2125
IC803
IC803 TC4S66F-TE85R
TH801
R813 0
IC801
IC801 TA75S01F (TE85L)
R807 22k
C812 0.01 50V F
TEMP DET BLOCK
16

SE-56 (STEADY SHOT SENSOR) PRINTED WIRING BOARD

— Ref. No. SE-56 Board; 4,000 Series —


SE-56 BOARD (SIDE A)
TH801
R807
R810
R809
C812
C814
R811
IC801
C817
R813
C818
IC803
C821
R822
R823
C823
R825
C824
C819
R817
R819
1-663-146
11

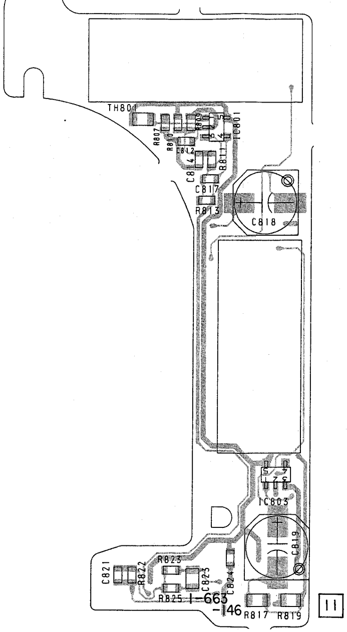

8
9
10
11
12
IC804
IC804 TC4S66F-TE85R
4.8
0
2.3
R817 470k ±0.5% :M
R819 470k ±0.5% :M
R823 10k
R825 15k
C823 0.022 B:2125
R822 270k
C821 100p
1.9
2.2
IC805
IC805 NJM3403AV (TE2)
C824 0.1 F
CN801 6P
6 YS OUT
5 GND
4 TEMP DET
3 B 5V
2 PS OUT
1 C RESET
TO LD-86 BOARD CN301
(SEE PAGE 4-41)
2.7
R818 470k ±0.5% :M
R816 470k ±0.5% :M
R821 270k
C820 100p
R824 15k
R820 10k
C822 0.022 B:2125
IC803
IC803 TC4S66F-TE85R

SE-56 (STEADY SHOT SENSOR) PRINTED WIRING BOARD

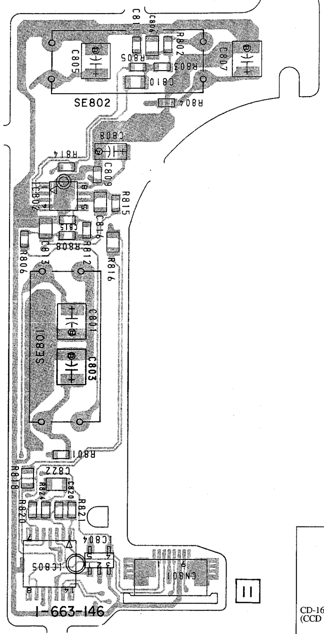
— Ref. No. SE-56 Board; 4,000 Series —

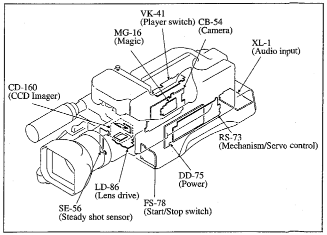
There are few cases that the part printed on this diagram isn't mounted in this model.

SE-56 BOARD (SIDE A)


TH801
R807
R810
C812
R811
C801
C817
R813
C818
IC803
R823
R822
C821
C823
C824
C819
R825
R817
R819
1-663-146
11

SE-56 BOARD (SIDE B)


C805
R805
R802
R803
C807
C810
SE802
R804
R808
R814
C809
R815
R816
R806
R812
SE801
C801
C803
R801
C822
R818
R824
C820
R820
R821
C804
IC805
CN801
1-663-146
11


VK-41
(Player switch)
CB-54
(Camera)
MG-16
(Magic)
XL-1
(Audio input)
CD-160
(CCD Imager)
RS-73
(Mechanism/Servo control)
DD-75
(Power)
LD-86
(Lens drive)
FS-78
(Start/Stop switch)
SE-56
(Steady shot sensor)

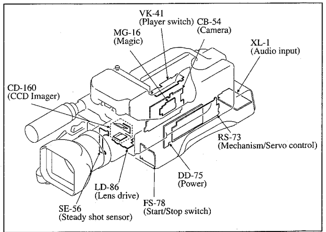
LD-86 (LENS DRIVE) PRINTED WIRING BOARD

— Ref. No. LD-86 Board; 3,000 Series —

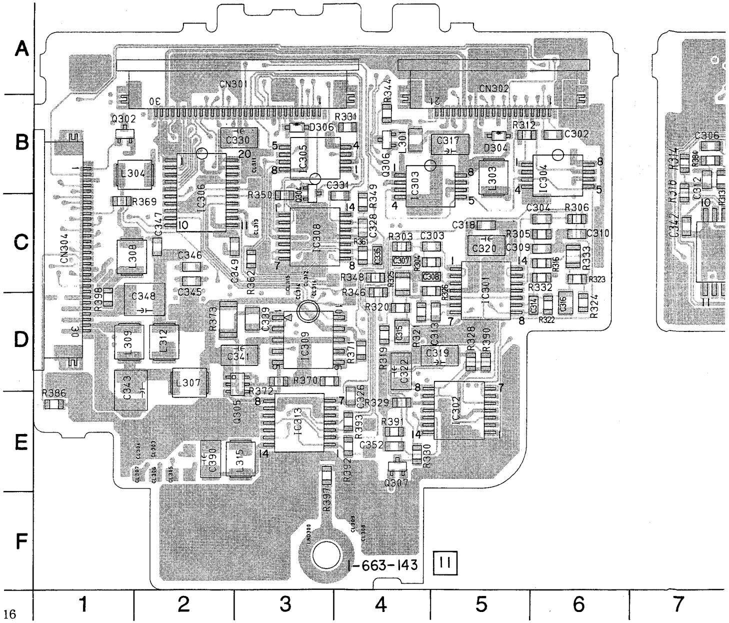
There are few cases that the part printed on this diagram isn't mounted in this model.

LD-86 BOARD, COMPLETE

C302	B-6	C350	D-11	L312	D-2	R337	B-10
C303	C-4	C351	D-10	L315	E-3	R338	B-11
C304	C-6	C352	E-4			R339	C-9
C305	B-9	C390	E-2	Q301	B-12	R340	B-10
C306	B-7			Q302	B-1	R341	B-10
C307	C-4	CN301	A-3	Q303	B-9	R344	B-4
C308	C-5	CN302	A-5	Q304	B-3	R345	C-10
C309	C-6	CN304	C-1	Q305	D-3	R346	C-4
C310	C-6			Q306	B-4	R348	C-4
C311	C-8	D301	B-10	Q307	E-4	R349	C-4
C312	B-7	D302	B-8			R350	B-3
C315	D-4	D303	B-8	R301	C-9	R355	B-12
C316	D-6	D304	B-5	R302	B-7	R356	B-9
C317	B-5	D305	B-8	R303	C-4	R361	C-4
C319	D-5			R304	C-4	R362	C-3
C320	C-5	FB001	C-12	R305	C-6	R363	C-9
C321	B-9			R306	C-6	R364	C-9
C322	D-4	IC301	C-5	R307	B-9	R365	C-9
C324	B-9	IC302	E-5	R308	B-7	R366	C-9
C325	B-10	IC303	B-4	R309	B-8	R369	C-1
C326	E-4	IC304	B-6	R310	C-9	R370	D-3
C327	C-9	IC305	B-3	R311	B-9	R371	D-4
C328	C-4	IC306	B-2	R312	B-5	R372	D-3
C330	B-3	IC307	D-9	R313	B-7	R373	D-2
C331	C-3	IC308	C-3	R314	B-7	R374	C-9
C333	B-10	IC309	D-3	R315	C-8	R375	D-8
C334	C-10	IC310	C-8	R316	C-6	R376	E-8
C335	C-4	IC311	C-11	R317	C-9	R377	C-8
C336	C-10	IC312	E-11	R318	B-7	R378	C-8
C337	C-10	IC313	E-3	R319	D-4	R379	B-8
C338	E-10			R320	D-4	R380	B-8
C339	D-3	L301	B-4	R321	D-4	R381	C-9
C340	C-9	L302	B-12	R322	D-6	R382	C-8
C341	D-3	L303	B-5	R323	C-6	R383	B-10
C342	C-7	L304	B-1	R324	D-6	R390	D-5
C343	D-1	L305	C-10	R327	B-9	R391	E-4
C344	C-8	L306	D-10	R328	D-5	R398	D-1
C345	C-2	L307	D-2	R329	E-4	R399	C-12
C346	C-2	L308	C-1	R330	E-4		
C347	C-2	L309	D-1	R331	B-4	X301	D-8
C348	D-2	L310	C-9	R334	B-9		
C349	C-2	L311	D-10	R335	B-10		


VK-41
(Player switch)
CB-54
(Camera)
MG-16
(Magic)
XL-1
(Audio input)
CD-160
(CCD Imager)
RS-73
(Mechanism/Servo control)
DD-75
(Power)
LD-86
(Lens drive)
FS-78
(Start/Stop switch)
SE-56
(Steady shot sensor)

LD-86 BOARD (SIDE A)


LD-86
A
B
C
D
E
F
1
2
3
4
5
6
7
16
CN301
CN302
CN304
Q302
R334
D306
C330
IC306
IC305
L301
C317
D304
IC303
L303
IC304
R312
C302
L304
R369
C347
R350
C331
IC308
R349
C328
C304
R306
C318
R305
C310
R303
C303
C320
C309
L308
C346
C345
C348
R398
C349
R362
R373
C339
C335
C307
C308
R348
R346
R320
IC301
R332
R333
R323
C314
C316
R324
R322
L309
L312
C341
IC309
R371
R319
C315
C322
C313
C319
R328
R390
C343
L307
R370
R386
Q305
R372
IC313
C326
R329
IC302
R391
R393
C352
R330
C390
L315
R392
Q307
R397
1-663-143
11
C306
R314
R310
C312
C342

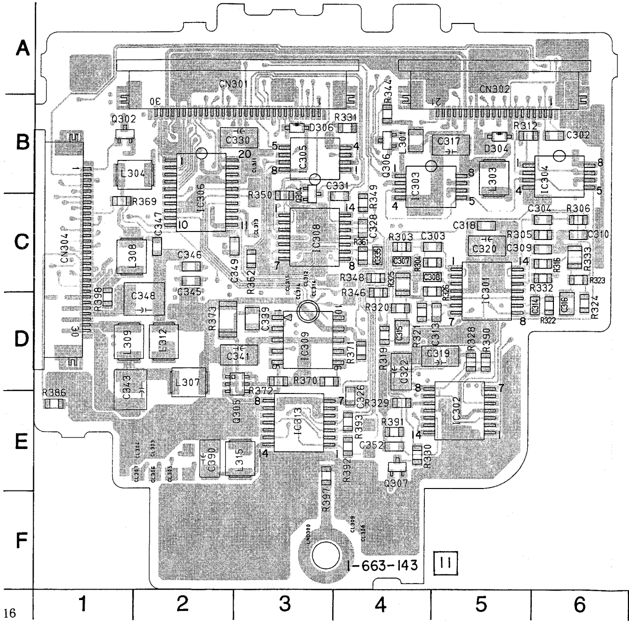
R337	B-10
R338	B-11
R339	C-9
R340	B-10
R341	B-10
R344	B-4
R345	C-10
R346	C-4
R348	C-4
R349	C-4
R350	B-3
R355	B-12
R356	B-9
R361	C-4
R362	C-3
R363	C-9
R364	C-9
R365	C-9
R366	C-9
R369	C-1
R370	D-3
R371	D-4
R372	D-3
R373	D-2
R374	C-9
R375	D-8
R376	E-8
R377	C-8
R378	C-8
R379	B-8
R380	B-8
R381	C-9
R382	C-8
R383	B-10
R390	D-5
R391	E-4
R398	D-1
R399	C-12
X301	D-8

-1
udio input)

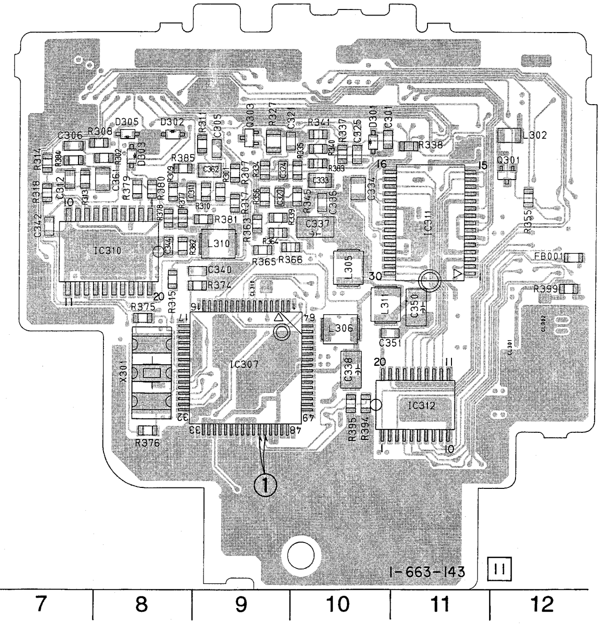
i/Servo control)

There are few cases that the part printed on this diagram isn't mounted in this model.

LD-86 BOARD (SIDE A)


A
B
C
D
E
F
1
2
3
4
5
6
16
CN301
CN302
CN304
30
21
Q302
D306
R331
R344
C330
C305
C317
D304
R312
C302
IC306
IC303
L303
IC304
L304
R369
C331
R350
R349
C328
IC308
C304
R306
C347
C318
R305
C310
L308
C346
R303
C303
C320
C309
R333
C349
R362
R361
R348
R346
C307
C308
IC301
R332
R323
R324
C348
C345
R320
C314
C316
R322
R398
R373
C339
IC309
R371
C315
R321
C313
R328
R390
L309
L312
C341
R319
C322
C319
C343
L307
R370
C326
IC302
R386
Q305
R372
IC313
R329
R393
R391
C352
C390
L315
R392
R330
Q307
R397
1-663-143
11

LD-86 BOARD (SIDE B)

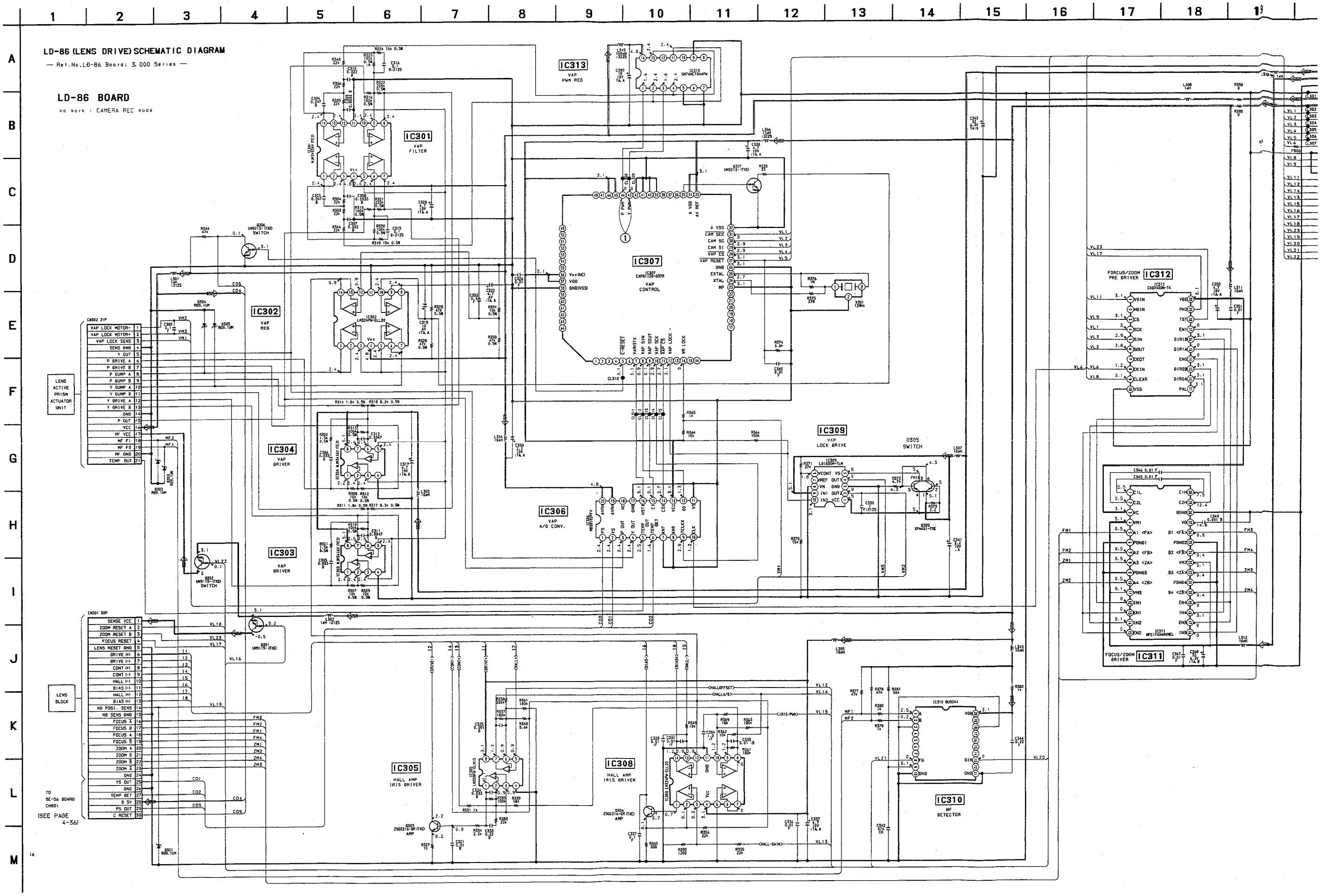

7
8
9
10
11
12
D305
D302
R311
C305
Q303
R327
C321
R341
R337
D301
C301
R338
L302
C306
R308
D303
R385
C325
Q301
R314
R318
C312
R313
C361
R379
R380
R309
C362
R301
R307
R334
C324
R335
R340
R383
C333
R363
R317
C332
R345
C336
C334
IC311
R355
C342
R381
C337
IC310
C344
R382
L310
R364
R365
R366
L305
FB001
C340
R374
R315
R375
C350
L311
R399
IC307
X301
L306
C351
C338
IC312
R395
R394
R376
1-663-143
11

LD-86 (LENS DRIVE) SCHEMATIC DIAGRAM

— Ref.No.LD-86 Board; 3,000 Series —

LD-86 BOARD

no mark : CAMERA REC mode



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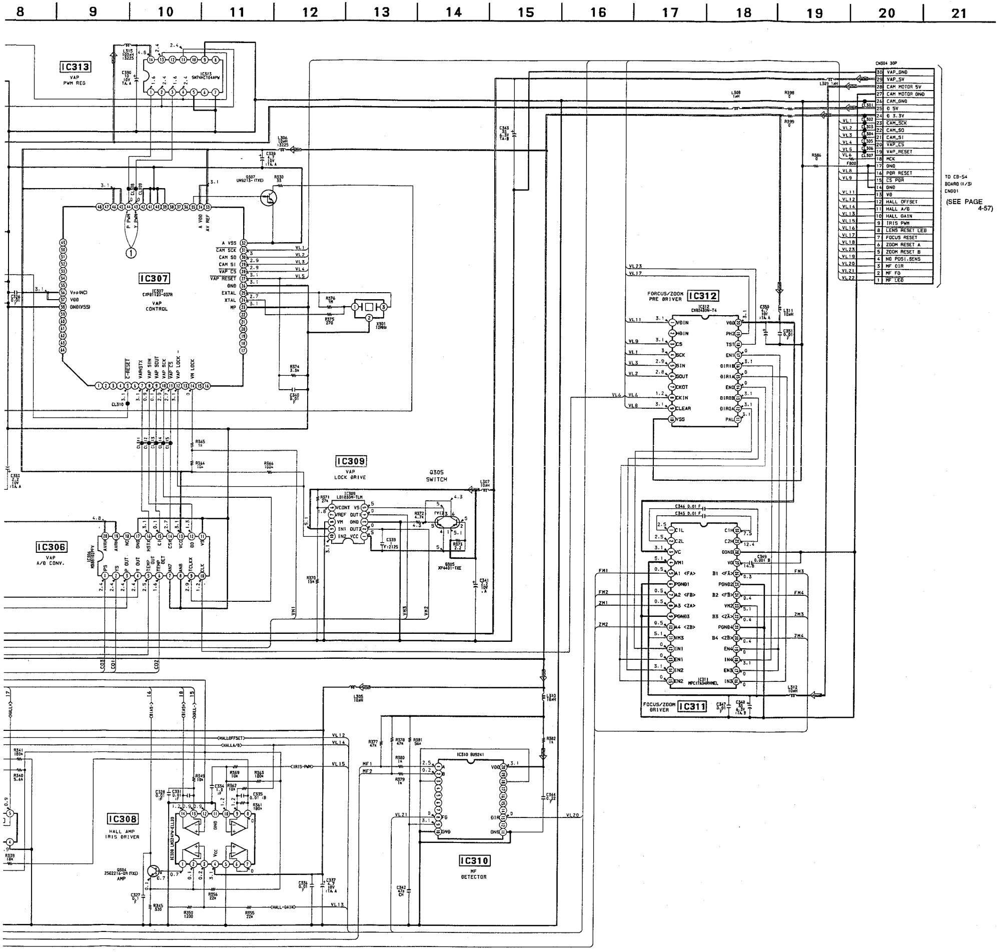
I
J
K
L
M
IC301
VAP FILTER
IC302
VAP REG
IC303
VAP DRIVER
IC304
VAP DRIVER
IC305
HALL AMP IRIS DRIVER
IC306
VAP A/D CONV.
IC307
VAP CONTROL
IC308
HALL AMP IRIS DRIVER
IC309
VAP LOCK DRIVE
IC310
MF DETECTOR
IC311
FOCUS/ZOOM DRIVER
IC312
FOCUS/ZOOM PRE DRIVER
IC313
VAP PWM REG
Q305
SWITCH
Q306
SWITCH
Q302
SWITCH
Q301
AMP
CN302 21P
VAP LOCK MOTOR-
VAP LOCK MOTOR+
VAP LOCK SENS
SENS GND
Y OUT
P DRIVE A
P DRIVE B
P DUMP A
P DUMP B
Y DUMP A
Y DUMP B
Y DRIVE A
Y DRIVE B
GND
P OUT
VCC
MF VCC
MF F1
MF F0
MF GND
TEMP OUT
LENS ACTIVE PRISM ACTUATOR UNIT
CN301 30P
SENSE VCC
ZOOM RESET A
ZOOM RESET B
FOCUS RESET
LENS RESET GND
DRIVE (+)
DRIVE (-)
CONT (+)
CONT (-)
HALL (-)
BIAS (-)
HALL (+)
BIAS (+)
ND POSI. SENS
ND SENS GND
FOCUS A
FOCUS B
FOCUS A
FOCUS B
ZOOM A
ZOOM B
ZOOM B
ZOOM A
GND
YS OUT
GND
TEMP DET
D 5V
PS OUT
C RESET
LENS BLOCK
TO SE-56 BOARD CN801 (SEE PAGE 4-36)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19
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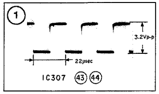
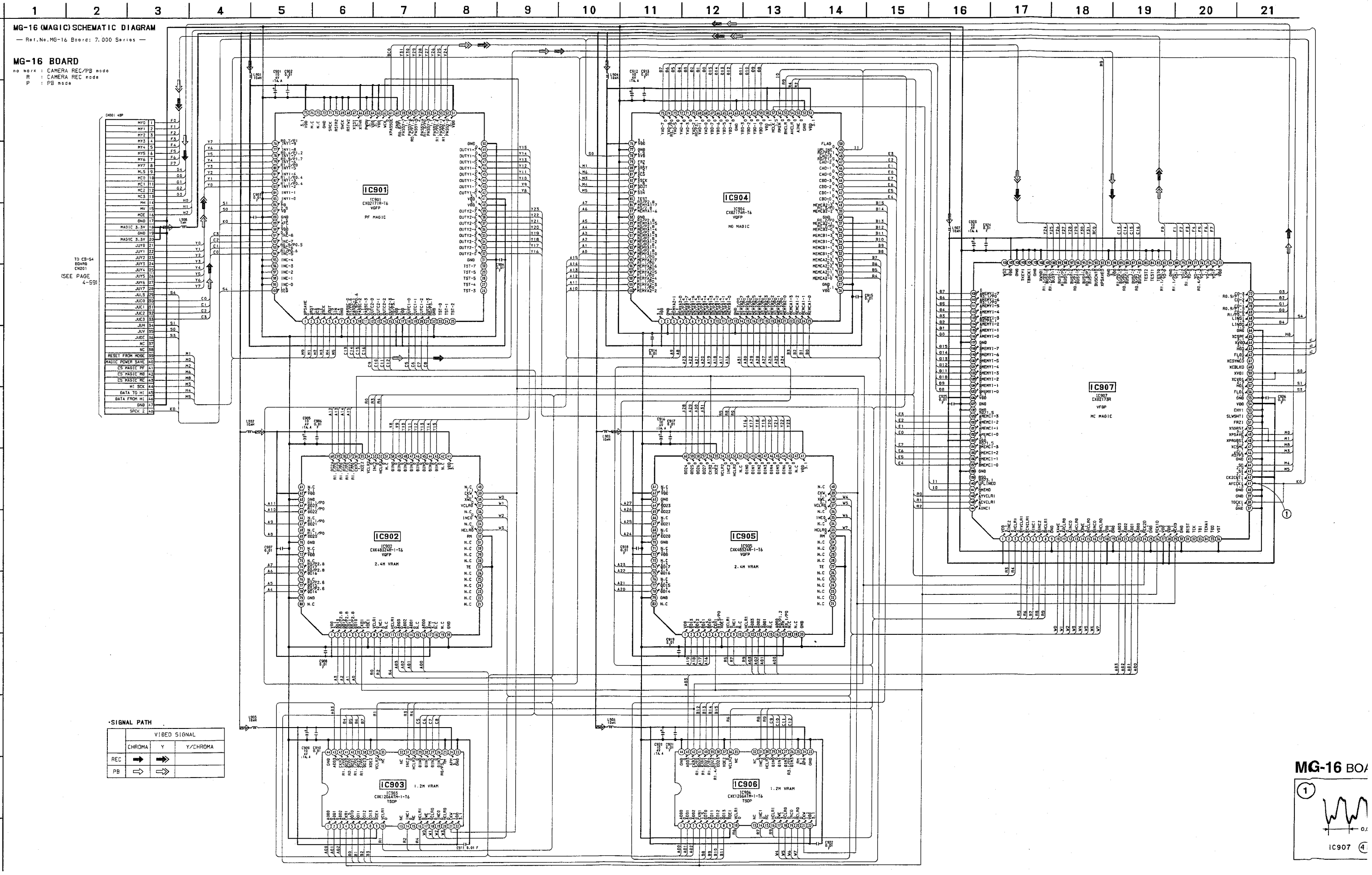
21
IC313
VAP
PWM REG
IC307
VAP
CONTROL
IC306
VAP
A/D CONV.
IC309
VAP
LOCK DRIVE
Q305
SWITCH
IC312
FORCUS/ZOOM
PRE DRIVER
IC311
FOCUS/ZOOM
DRIVER
IC308
HALL AMP
IRIS DRIVER
IC310
MF
DETECTOR
CN304 30P
VAP_GND
VAP_5V
CAM MOTOR 5V
CAM MOTOR GND
CAM_GND
D 5V
D 3.3V
CAM_SCK
CAM_SO
CAM_SI
VAP_CS
VAP_RESET
MCK
GND
POR RESET
CS POR
GND
VD
HALL OFFSET
HALL A/B
HALL GAIN
IRIS PWM
LENS RESET LED
FOCUS RESET
ZOOM RESET A
ZOOM RESET B
ND POSI.SENS
MF DIR
MF FG
MF LED
TO CB-54
BOARD (1/3)
CN001
(SEE PAGE
4-57)

LD-86 BOARD (CAMERA REC)

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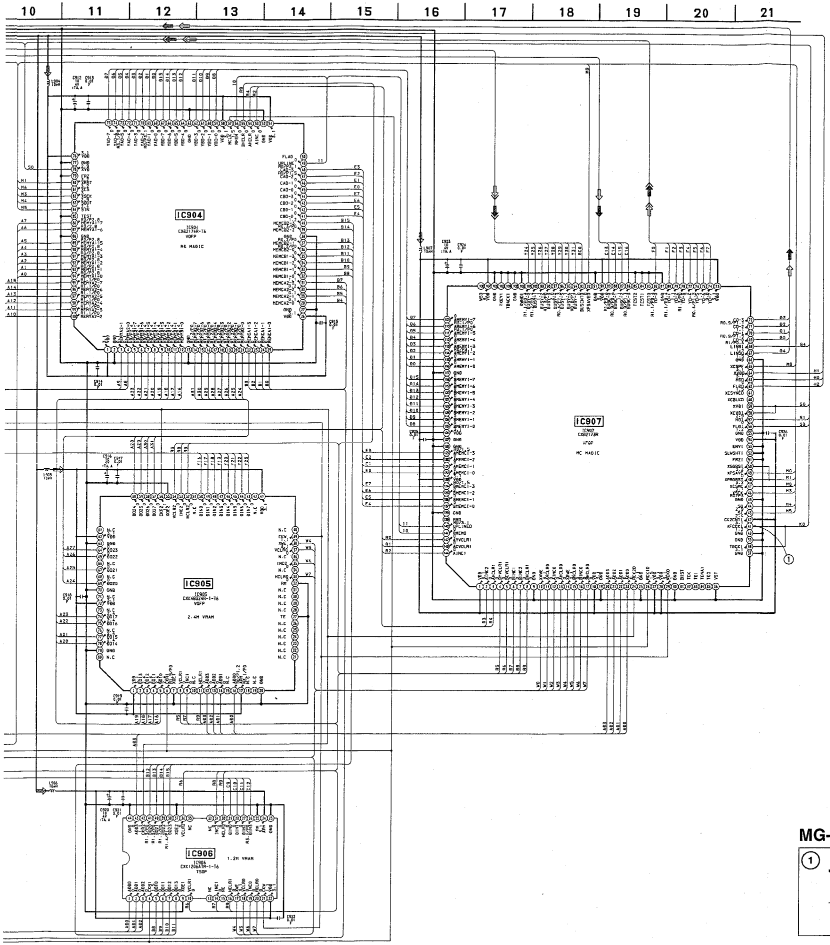
21
A
B
C
D
E
F
G
H
I
J
K
L
M
N
TO CS-54 BOARD CN201 (SEE PAGE 4-59)
IC901
CXD2173R-T6
VQFP
PF MAGIC
IC904
CXD2174R-T6
VQFP
MG MAGIC
IC907
CXD2175R
VFQP
MC MAGIC
IC902
CXK4832AR-1-T6
VQFP
2.4M VRAM
IC905
CXK4832AR-1-T6
VQFP
2.4M VRAM
IC903
CXK1206ATM-1-T6
TSOP
1.2M VRAM
IC906
CXK1206ATM-1-T6
TSOP
1.2M VRAM
•SIGNAL PATH
VIDEO SIGNAL
CHROMA
Y
Y/CHROMA
REC
PB
MG-16 BO
①
IC907 ④

MG-16 (MAGIC) SCHEMATIC DIAGRAM

— Ref.No.MG-16 Board; 7,000 Series —

MG-16 BOARD

no mark : CAMERA REC/PB mode
R : CAMERA REC mode
P : PB mode


10
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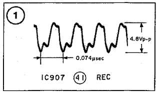
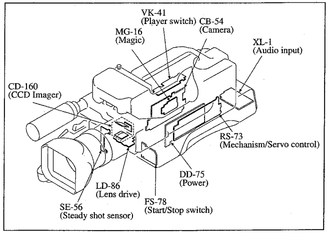
16
17
18
19
20
21
IC904
CXD2174R-T6
VQFP
MC MAGIC
IC905
CXK48324R-1-T6
VQFP
2.4M VRAM
IC906
CXK1206ATM-1-T6
TSOP
1.2M VRAM
IC907
CXD2173R
VFQP
MC MAGIC
①

MG-16 BOARD



MG-16 BOARD

C901	B-2
C902	C-2
C903	H-2
C904	B-1
C905	B-7
C906	B-6
C907	B-7
C908	B-7
C909	A-3
C910	A-3
C911	A-3
C912	I-6
C913	H-6
C914	H-7
C915	F-7
C916	C-5
C917	C-5
C918	E-7
C919	D-7
C920	C-4
C921	C-3
C922	D-3
C923	B-4
C924	B-3
C925	F-4
C926	I-4
CN901	B-5
IC901	G-2
IC902	A-7
IC903	A-4
IC904	G-7
IC905	C-7
IC906	D-4
IC907	G-4
L901	B-2
L902	B-6
L903	A-2
L904	I-6
L905	C-5
L906	B-3
L907	B-3
L908	B-6

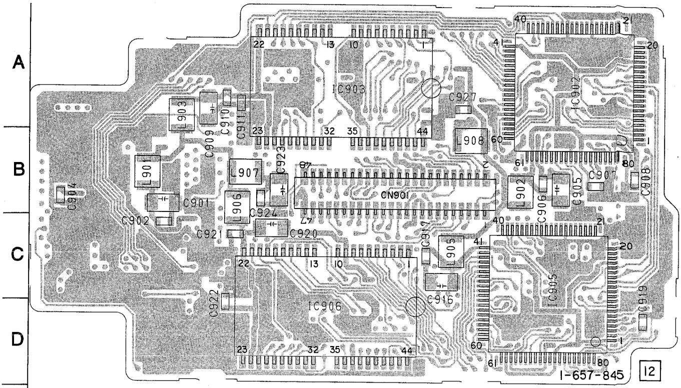

VK-41
(Player switch)
CB-54
(Camera)
MG-16
(Magic)
XL-1
(Audio input)
CD-160
(CCD Imager)
RS-73
(Mechanism/Servo control)
DD-75
(Power)
LD-86
(Lens drive)
FS-78
(Start/Stop switch)
SE-56
(Steady shot sensor)

MG-16 (MAGIC) PRINTED WIRING BOARD

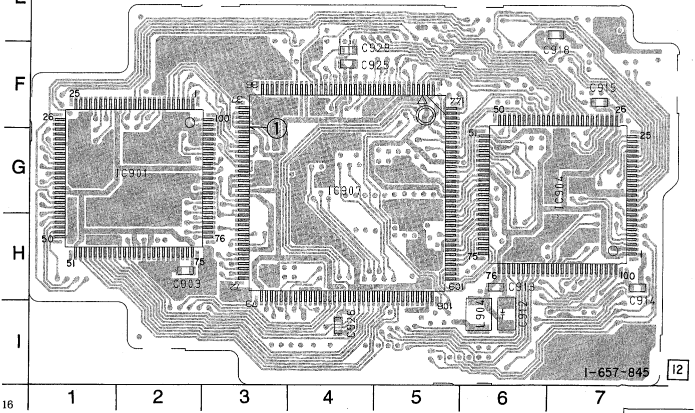
— Ref. No. MG-16 Board; 7,000 Series —

There are few cases that the part printed on this diagram isn't mounted in this model.

MG-16 BOARD (SIDE A)


A
B
C
D
IC903
IC902
IC906
IC905
CN901
L901
L902
L903
L905
L906
L907
L908
C901
C902
C904
C905
C906
C907
C908
C909
C910
C911
C916
C917
C919
C920
C921
C922
C923
C924
C927
1-657-845
12

MG-16 BOARD (SIDE B)


E
F
G
H
I
1
2
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4
5
6
7
IC901
IC907
IC904
L904
C903
C912
C913
C914
C915
C918
C925
C926
C928
①
1-657-845
12

CB-54 BOARD

C001	E-13
C002	E-13
C004	E-12
C005	D-1
C006	D-2
C007	E-3
C012	E-1
C013	E-2
C014	E-3
C015	E-1
C016	E-2
C017	E-3
C020	E-3
C021	D-1
C022	D-1
C023	D-1
C024	E-14
C025	E-14
C026	D-15
C027	D-15
C028	D-15
C029	E-1
C030	E-2
C031	E-2
C032	E-2
C033	E-3
C034	E-3
C035	E-2
C036	E-2
C037	E-3
C038	D-13
C040	B-15
C042	B-15
C044	A-15
C045	E-15
C046	E-15
C047	B-2
C048	C-15
C049	C-15
C050	D-16
C051	C-15
C052	D-16
C053	C-15
C054	C-15
C055	C-15
C056	B-15
C057	A-2
C058	A-2
C059	B-14
C060	D-16
C061	D-15
C062	D-15
C063	D-16
C064	A-15
C066	B-2
C067	C-14
C068	C-15
C069	C-14
C070	D-15
C071	B-14
C072	B-14
C073	B-14
C075	D-15
C076	D-16
C077	C-15
C078	C-15
C079	C-15
C080	C-14
C081	D-4
C082	D-4
C083	D-4
C084	C-15
C085	C-15
C086	D-2
C087	B-2
C088	C-2
C089	C-2
C090	C-2
C091	B-2
C092	C-2
C093	C-2
C094	B-2
C095	C-13
C096	C-14
C098	C-3
C099	D-14
C100	D-3
C101	B-14
C102	B-3
C103	D-3
C104	B-4
C105	A-3
C106	C-13
C107	B-13
C108	B-4
C109	B-4
C110	C-13
C111	B-4
C112	A-14
C113	B-12
C114	B-14
C117	B-2
C121	D-15
C122	D-4
C123	D-4
C124	D-4
C125	D-2
C126	E-3
C127	D-3
C128	B-3
C129	C-14
C130	C-14
C131	B-2
C132	D-2
C133	C-2
C199	D-3
C203	C-12
C204	B-6
C205	B-6
C206	C-5
C208	D-5
C209	D-10
C210	D-5
C211	D-9
C213	D-9
C214	D-9
C215	D-9
C216	C-8
C217	D-8
C218	C-8
C219	C-9
C221	D-9
C225	C-9
C226	D-7
C227	D-10
C228	D-7
C229	C-5
C231	B-7
C233	B-11
C235	B-11
C237	B-11
C238	B-11
C244	B-10
C245	B-10
C246	A-10
C247	B-10
C248	B-10
C249	B-11
C250	B-11
C251	A-11
C253	C-6
C255	A-7
C257	C-5
C258	B-11
C259	B-11
C261	E-11
C262	E-11
C263	E-11
C264	E-11
C265	D-12
C266	E-12
C267	E-12
C268	A-5
C290	C-7
C291	B-6
C292	B-8
C293	B-6
C294	B-7
C295	B-7
C296	C-7
C297	B-8
C298	B-11
C299	B-10
C300	C-7
C301	C-12
C302	C-12
C303	B-10
C304	C-11
C305	C-10
C306	C-10
C307	C-10
C309	C-10
C310	C-10
C311	C-10
C313	C-10
C314	C-11
C315	C-10
C316	C-10
C317	C-10
C318	D-11
C319	D-10
C320	D-10
C321	D-7
C322	D-7
C323	D-10
C325	D-7
C326	D-11
C327	D-11
C328	D-7
C329	B-12
C330	A-4
C331	D-11
C332	D-10
C333	D-10
C334	D-11
C335	D-10
C336	D-10
C337	B-12
C338	C-12
C339	B-11
C340	D-11
C341	D-10
C342	E-10
C343	C-12
C344	E-10
C345	D-10
C347	E-11
C348	D-7
C349	E-8
C350	D-8
C351	D-7
C352	E-7
C353	E-8
C354	D-7
C355	E-7
C356	E-7
C357	E-7
C358	D-11
C359	E-6
C360	E-6
C361	E-7
C362	D-11
C363	E-7
C364	E-11
C365	B-12
C372	C-12
C373	E-8
CN001	E-14
CN002	E-12
CN003	C-2
CN201	D-11
CN202	E-5
CN290	A-9
CT001	D-1
CT201	D-8
CT202	B-7
D001	D-1
D002	D-2
D003	E-3
D004	E-1
D005	E-2
D006	E-3
D007	E-1
D008	E-2
D009	E-3
D201	D-8
D202	B-10
D297	C-11
FL290	C-7
FL291	C-7
FL292	C-7
FL293	C-7
FL294	D-7
FL295	E-8
IC001	D-14
IC002	E-1
IC003	E-2
IC004	E-3
IC005	B-15
IC006	D-15
IC007	D-4
IC008	C-14
IC009	C-3
IC010	D-3
IC011	B-3
IC012	A-3
IC013	C-4
IC014	D-4
IC015	D-3
IC016	C-13
IC017	B-13
IC018	B-14
IC019	B-14
IC201	B-12
IC202	B-5
IC203	C-5
IC204	D-8
IC205	B-7
IC207	B-11
IC290	C-7
IC291	C-11
IC292	C-10
IC293	C-12
IC294	D-10
IC295	A-12
IC296	B-11
IC297	C-11
IC298	C-11
IC299	E-10
IC300	D-6
IC301	D-7
IC302	C-11
L001	E-13
L002	E-13
L003	E-13
L004	E-12
L005	E-13
L006	E-4
L007	A-2
L008	E-15
L009	D-1
L010	D-15
L011	D-2
L012	B-14
L013	D-3
L014	A-3
L015	C-13
L016	B-4
L017	A-14
L018	D-15
L019	D-15
L021	E-3
L201	B-6
L202	D-5
L203	D-10
L205	B-7
L206	B-11
L207	E-11
L208	E-11
L209	E-11
L210	E-11
L211	E-12
L212	E-12
L213	E-12
L290	B-8
L291	B-6
L292	B-11
L293	B-8
L294	D-10
L295	D-12
L298	A-5
L299	B-11
L300	E-8
L301	E-11
L302	B-12
Q001	D-1
Q002	D-1
Q003	D-1
Q011	D-2
Q290	E-10
Q291	E-10
Q292	C-11
Q293	C-10
Q294	C-10
Q295	B-9
Q296	B-9
Q297	B-10
Q298	C-11
Q301	A-8
Q302	D-7
Q303	D-11
Q304	E-9
Q305	E-8
Q306	E-9
Q307	E-9
Q308	C-11
Q309	C-11
Q312	D-7
Q313	D-7
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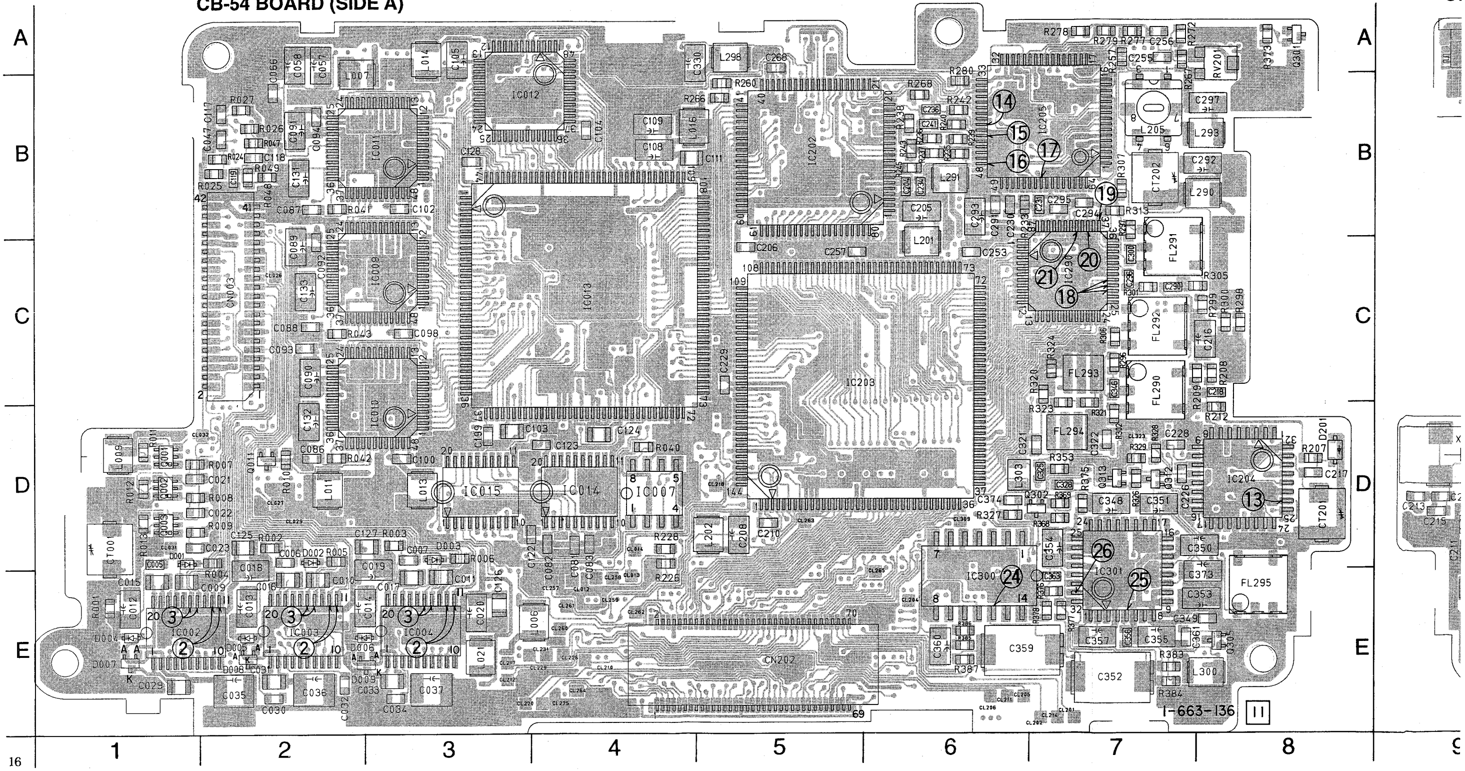
R005	D-2
R006	D-3
R007	D-1
R008	D-1
R009	D-1
R010	D-2
R011	D-1
R012	D-1
R013	D-1
R016	D-13
R017	D-13
R018	D-13
R019	D-13
R020	E-15
R021	E-15
R022	D-15
R023	E-15
R024	B-2
R025	B-2
R026	B-2
R028	D-15
R029	D-14
R030	D-14
R031	D-14
R032	D-16
R037	B-14
R038	B-14
R039	B-14
R040	D-4
R041	B-2
R042	D-2
R043	C-2
R047	B-2
R049	B-2
R056	A-14
R058	B-14
R059	B-14
R060	B-14
R062	B-14
R063	B-14
R065	B-15
R066	B-15
R068	B-15
R202	B-12
R205	D-9
R207	D-8
R208	C-8
R209	C-8
R212	D-8
R214	D-9
R215	C-9
R217	D-9
R219	C-10
R220	B-10
R221	B-10
R228	D-4
R229	B-11
R230	B-11
R231	B-11
R232	B-10
R233	B-6
R235	B-6
R236	B-6
R239	B-6
R240	B-6
R241	B-10
R242	B-6
R244	B-10
R245	B-6
R251	B-10
R257	A-7
R260	B-5
R266	B-5
R268	B-6
R272	A-7
R278	A-7
R283	D-12
R284	D-12
R290	E-10
R291	E-10
R292	E-10
R293	B-10
R294	B-10
R295	B-10
R296	C-7
R297	B-7
R298	C-8
R299	C-8
R300	C-8
R301	C-7
R302	D-7
R303	B-10
R304	B-10
R305	C-8
R306	C-7
R308	B-9
R309	B-10
R310	C-11
R311	C-10
R312	C-10
R314	B-9
R315	B-10
R316	C-10
R317	C-12
R318	C-10
R319	B-10
R320	C-7
R321	C-7
R322	C-11
R323	C-7
R324	C-7
R325	C-11
R326	D-7
R328	D-7
R329	D-7
R330	C-10
R332	C-10
R342	D-10
R343	C-10
R344	C-10
R345	D-10
R346	D-10
R347	A-12
R348	A-12
R349	A-12
R351	C-10
R352	C-10
R354	C-11
R361	D-11
R362	D-10
R363	D-10
R364	D-11
R365	D-10
R367	E-10
R368	D-7
R369	D-7
R372	C-11
R373	A-8
R374	C-11
R375	D-7
R376	E-7
R377	E-7
R378	E-7
R379	D-11
R380	D-11
R381	D-11
R382	D-11
R383	E-7
R384	E-7
R385	E-6
R386	E-6
R387	E-6
R388	C-11
R389	C-11
R390	E-9
R391	E-10
R392	E-10
R393	E-10
R394	E-9
R395	C-10
X001	D-13
X002	D-16
X201	D-9

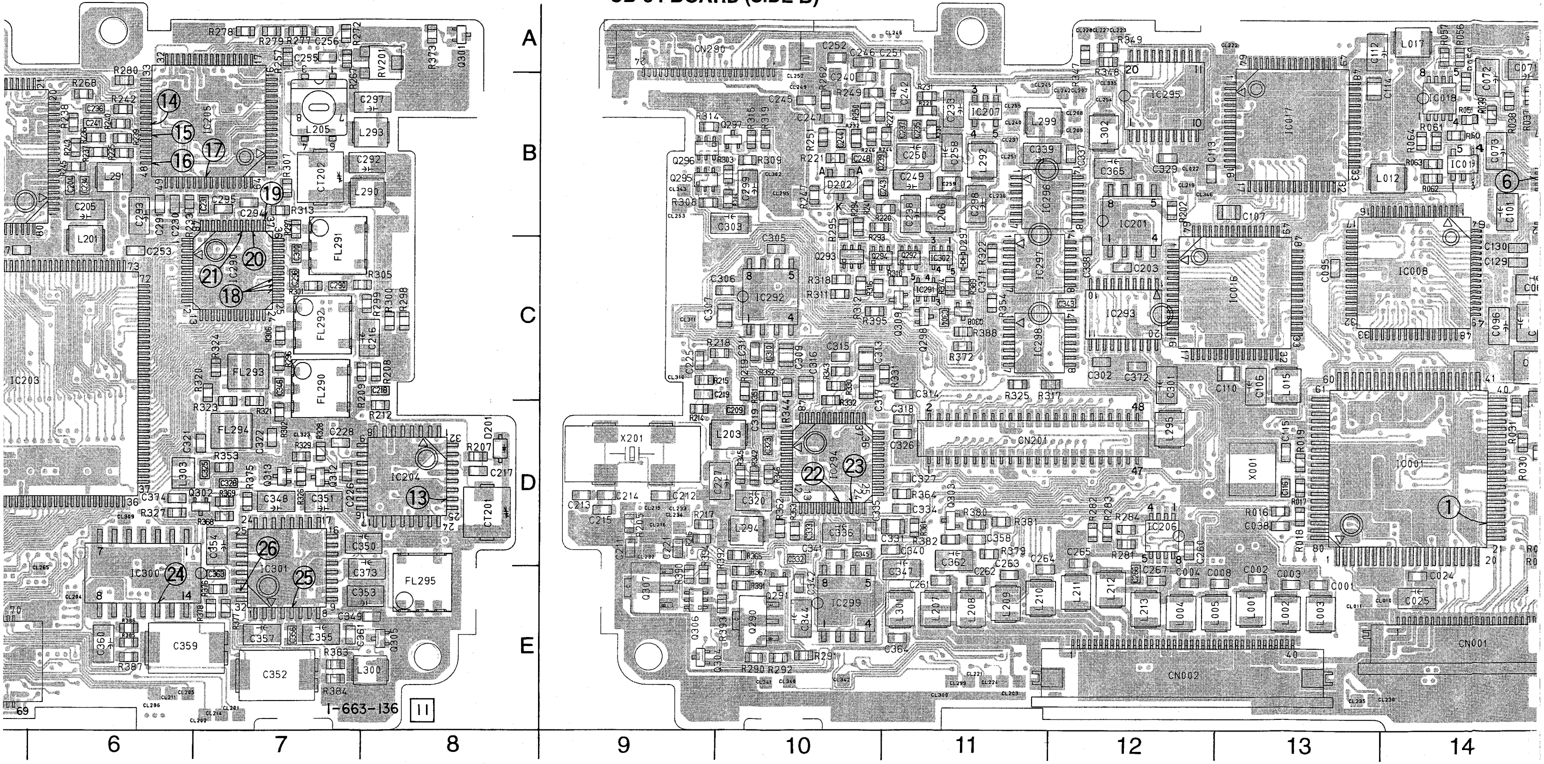
CB-54 (CAMERA) PRINTED WIRING BOARD
— Ref. No. CB-54 Board; 1,000 Series —

There are few cases that the part printed on this diagram isn't mounted in this model.

CB-54 BOARD (SIDE A)


A
B
C
D
E
1
2
3
4
5
6
7
8
IC002
IC003
IC004
IC007
IC009
IC010
IC011
IC012
IC013
IC014
IC015
IC202
IC203
IC204
IC205
IC290
IC300
IC301
CN003
CN202
FL290
FL291
FL292
FL293
FL294
FL295
CT001
CT201
CT202
RV201
1-663-136
11

CB-54 BOARD (SIDE B)


A
B
C
D
E
6
7
8
9
10
11
12
13
14
1-663-136
11
IC203
IC205
IC290
IC204
IC300
IC301
FL290
FL291
FL292
FL293
FL294
FL295
CT201
CT202
RV201
L205
CN290
CN201
CN002
CN001
X201
X001
IC001
IC008
IC016
IC017
IC018
IC019
IC201
IC206
IC207
IC291
IC292
IC293
IC294
IC295
IC296
IC297
IC298
IC299
IC302
①
⑥
⑬
⑭
⑮
⑯
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⑳
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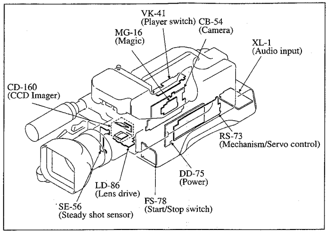
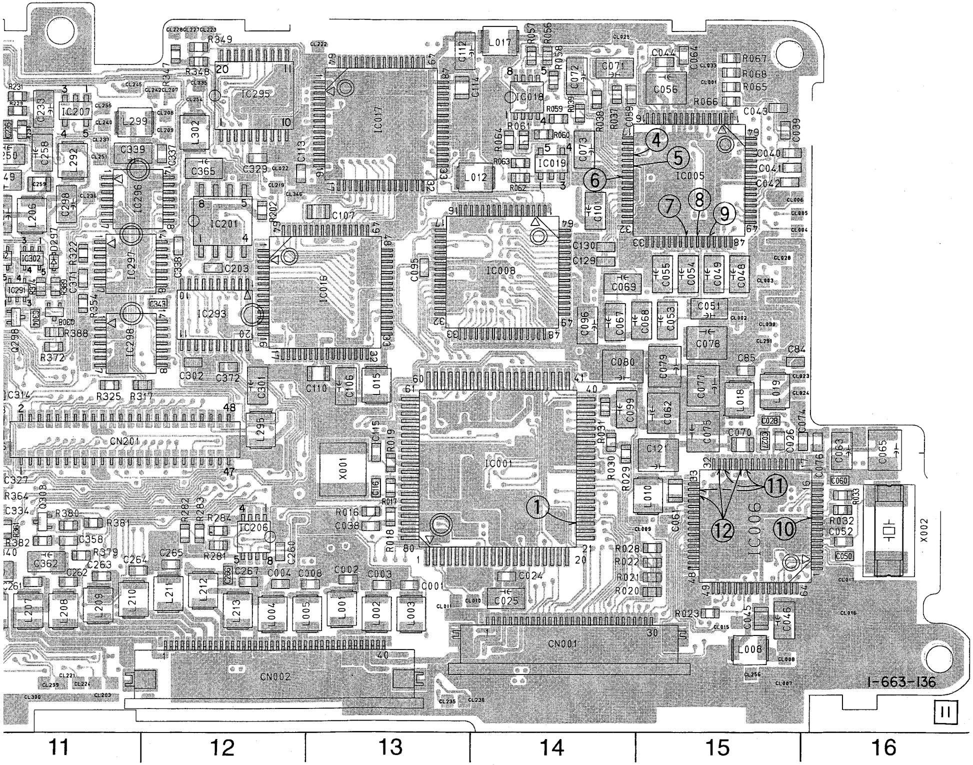
㉓
㉔
㉕
㉖


VK-41
(Player switch)
CB-54
(Camera)
MG-16
(Magic)
XL-1
(Audio input)
CD-160
(CCD Imager)
RS-73
(Mechanism/Servo control)
DD-75
(Power)
LD-86
(Lens drive)
FS-78
(Start/Stop switch)
SE-56
(Steady shot sensor)


IC001
IC005
IC006
IC008
IC016
IC017
IC018
IC019
IC201
IC206
IC207
IC293
IC295
IC296
IC297
IC298
CN001
CN002
CN201
X001
X002
1-663-136
11
①
②
③
④
⑤
⑥
⑦
⑧
⑨
⑩
⑪
⑫
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15
16

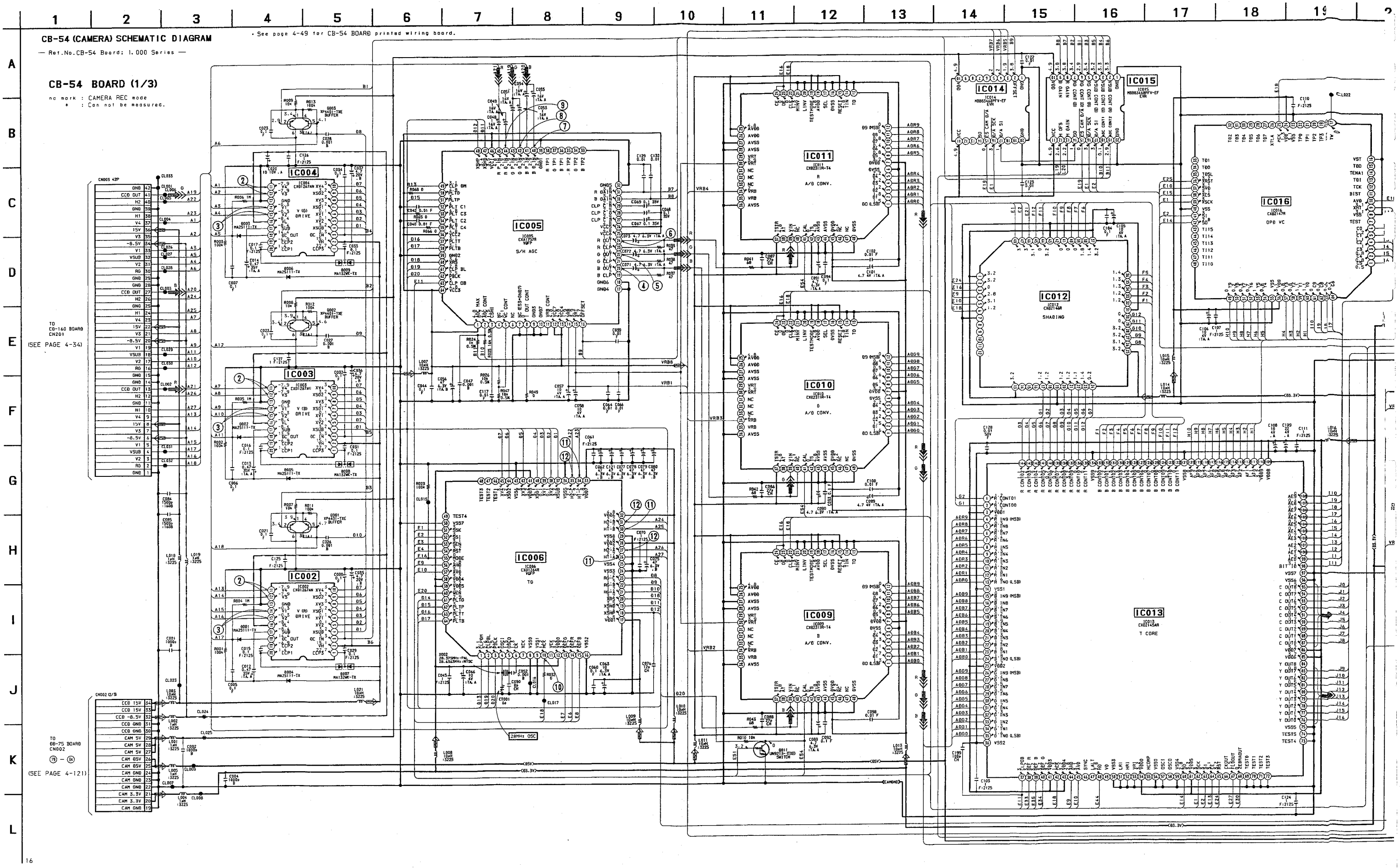
CB-54 (CAMERA) SCHEMATIC DIAGRAM

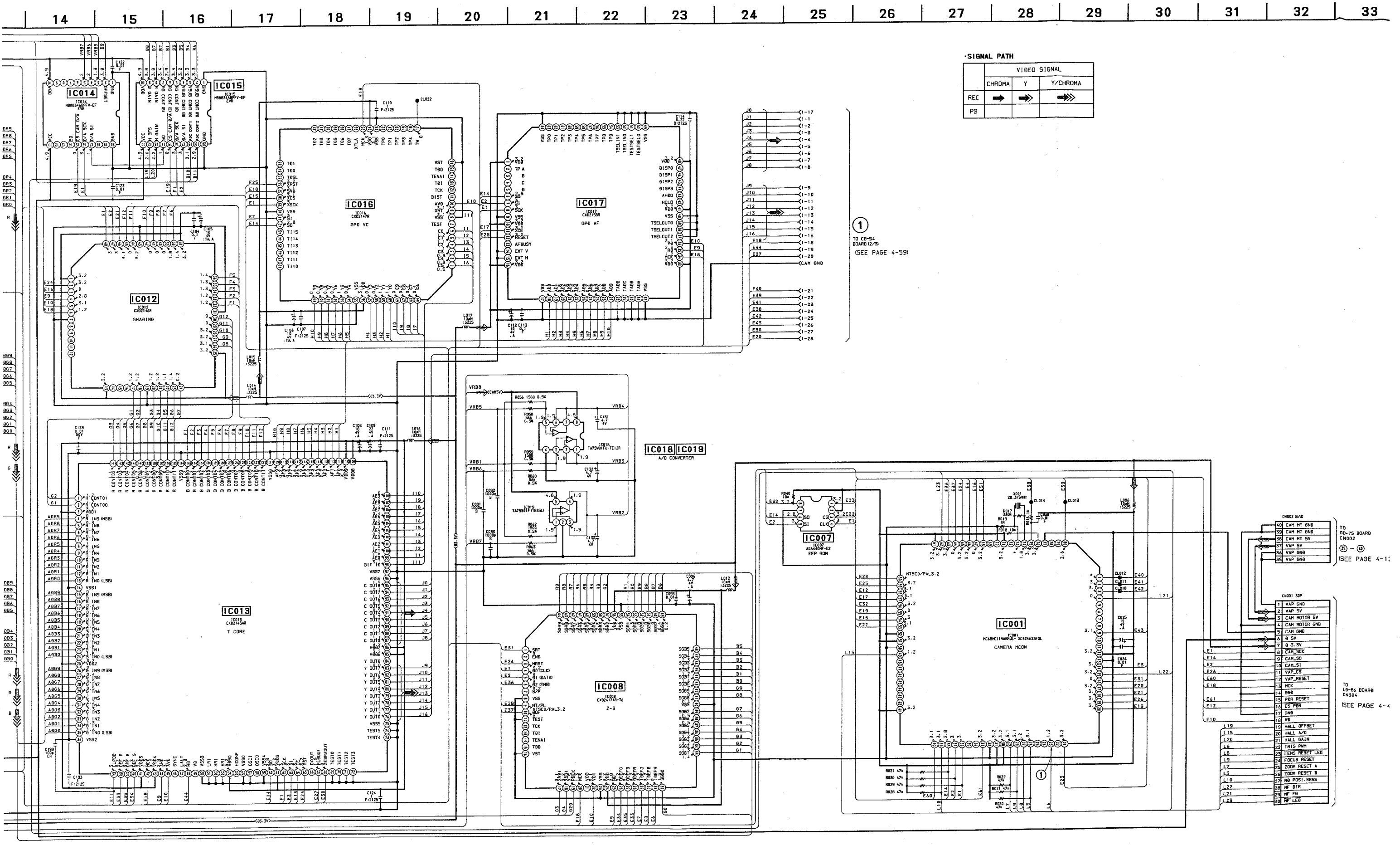
— Ref.No.CB-54 Board; 1,000 Series —

• See page 4-49 for CB-54 BOARD printed wiring board.

CB-54 BOARD (1/3)

no mark : CAMERA REC mode
* : Can not be measured.


IC004
CXD1267AN
V (G) DRIVE
IC003
CXD1267AN
V (B) DRIVE
IC002
CXD1267AN
V (R) DRIVE
Q003 XP4401-TXE BUFFER
Q002 XP4401-TXE BUFFER
Q001 XP4401-TXE BUFFER
IC005
CXA1757R
S/H AGC
IC006
CXD1264R
TG
IC011
CXD2311R-T4
R A/D CONV.
IC010
CXD2311R-T4
G A/D CONV.
IC009
CXD2311R-T4
B A/D CONV.
IC014
MB88346BPFV-EF
EVR
IC015
MB88346BPFV-EF
EVR
IC016
CXD2147R
OPD VC
IC012
CXD2144R
SHADING
IC013
CXD2145AR
T CORE
Q011 UN9213-(TXE) SWITCH
X002 28.375MHz:PAL 28.6363MHz:NTSC
28MHz OSC
CN003 42P
TO CD-160 BOARD CN201 (SEE PAGE 4-34)
CN002 (2/3)
TO DD-75 BOARD CN002 ⑲ - ㉞ (SEE PAGE 4-121)
CCD 15V
CCD -8.5V
CCD GND
CAM 5V
CAM 0.5V
CAM GND
CAM 3.3V
<B5V>
<B3.3V>
<CAMGND>
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
A B C D E F G H I J K L


14
15
16
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22
23
24
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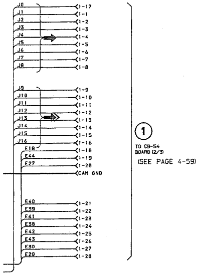
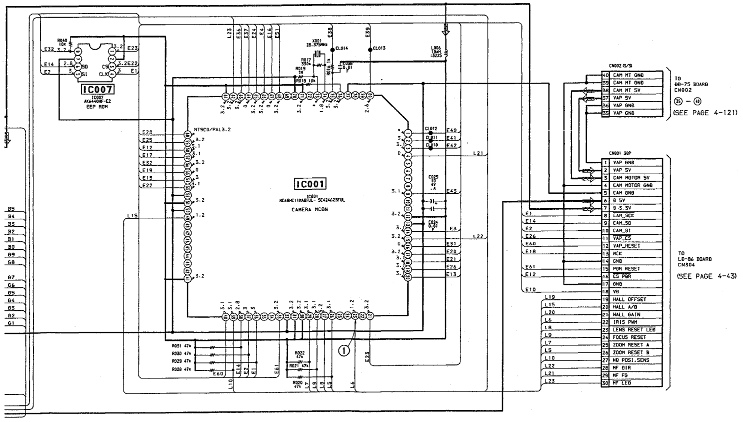
27
28
29
30
31
32
33
·SIGNAL PATH
VIDEO SIGNAL
CHROMA
Y
Y/CHROMA
REC
PB
IC014
MB88346BPFV-EF
EVR
IC015
MB88346BPFV-EF
EVR
IC016
CXD2147R
OPO VC
IC017
CXD2158R
OPO AF
IC012
CXD2146R
SHADING
IC013
CXD2145AR
T CORE
IC018 IC019
A/D CONVERTER
IC018
TA75W01FU-TE12R
IC019
TA75S01F (TE85L)
IC008
CXD2417AR-T6
Z-3
IC007
AK6440HF-E2
EEP ROM
IC001
MC68HC11MA8FUL-SC424623FUL
CAMERA MCON
①
TO CB-54 BOARD (2/3)
(SEE PAGE 4-59)
CN002 (3/3)
TO BD-75 BOARD CN002
㉟ – ㊵
(SEE PAGE 4-1
CN001 30P
TO LD-86 BOARD CN304
(SEE PAGE 4-4
40 CAM MT GND
39 CAM MT GND
38 CAM MT 5V
37 VAP 5V
36 VAP GND
35 VAP GND
1 VAP GND
2 VAP 5V
3 CAM MOTOR 5V
4 CAM MOTOR GND
5 CAM GND
6 D 5V
7 D 3.3V
8 CAM_SCK
9 CAM_SO
10 CAM_SI
11 VAP_CS
12 VAP_RESET
13 MCK
14 GND
15 PBR RESET
16 CS PBR
17 GND
18 VD
19 HALL OFFSET
20 HALL A/D
21 HALL GAIN
22 IRIS PWM
23 LENS RESET LED
24 FOCUS RESET
25 ZOOM RESET A
26 ZOOM RESET B
27 ND POSI.SENS
28 MF DIR
29 MF FG
30 MF LED
CAM GND
(D3.3V)
(CAM5V)

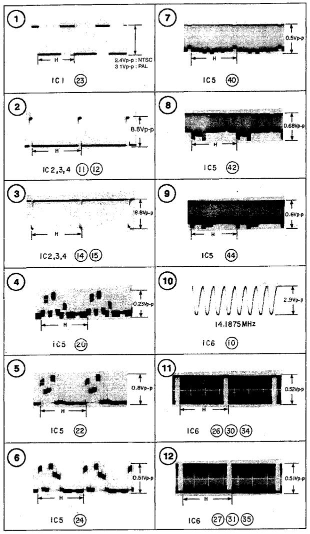
·SIGNAL PATH

	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC	➡	⇛	⇛
PB			


J0
J1
J2
J3
J4
J5
J6
J7
J8
J9
J10
J11
J12
J13
J14
J15
J16
E18
E44
E27
E40
E39
E41
E38
E42
E43
E30
E20
CAM GND
①
TO CB-54 BOARD (2/3)
(SEE PAGE 4-59)


IC007
AK6440HF-E2
EEP ROM
IC001
HC6BHC11HA8FUL-SC424623FUL
CAMERA MCON
X001
28.375MHz
CL014
CL013
CL012
CL011
CL010
NTSC0/PAL3.2
CN002 (3/8)
40 CAM MT GND
39 CAM MT GND
38 CAM MT 5V
37 VAP 5V
36 VAP GND
35 VAP GND
TO
BB-75 BOARD
CN002
㉟ - ㊵
(SEE PAGE 4-121)
CN001 30P
1 VAP GND
2 VAP 5V
3 CAM MOTOR 5V
4 CAM MOTOR GND
5 CAM GND
6 D 5V
7 D 3.3V
8 CAM_SCK
9 CAM_SO
10 CAM_SI
11 VAP_CS
12 VAP_RESET
13 MCK
14 GND
15 POR RESET
16 CS POR
17 GND
18 VD
19 HALL OFFSET
20 HALL A/B
21 HALL GAIN
22 IRIS PWM
23 LENS RESET LED
24 FOCUS RESET
25 ZOOM RESET A
26 ZOOM RESET B
27 MD POSI.SENS
28 MF DIR
29 MF FG
30 MF LED
TO
LB-84 BOARD
CN304
(SEE PAGE 4-43)

CB-54 BOARD (1/3) (CAMERA REC)



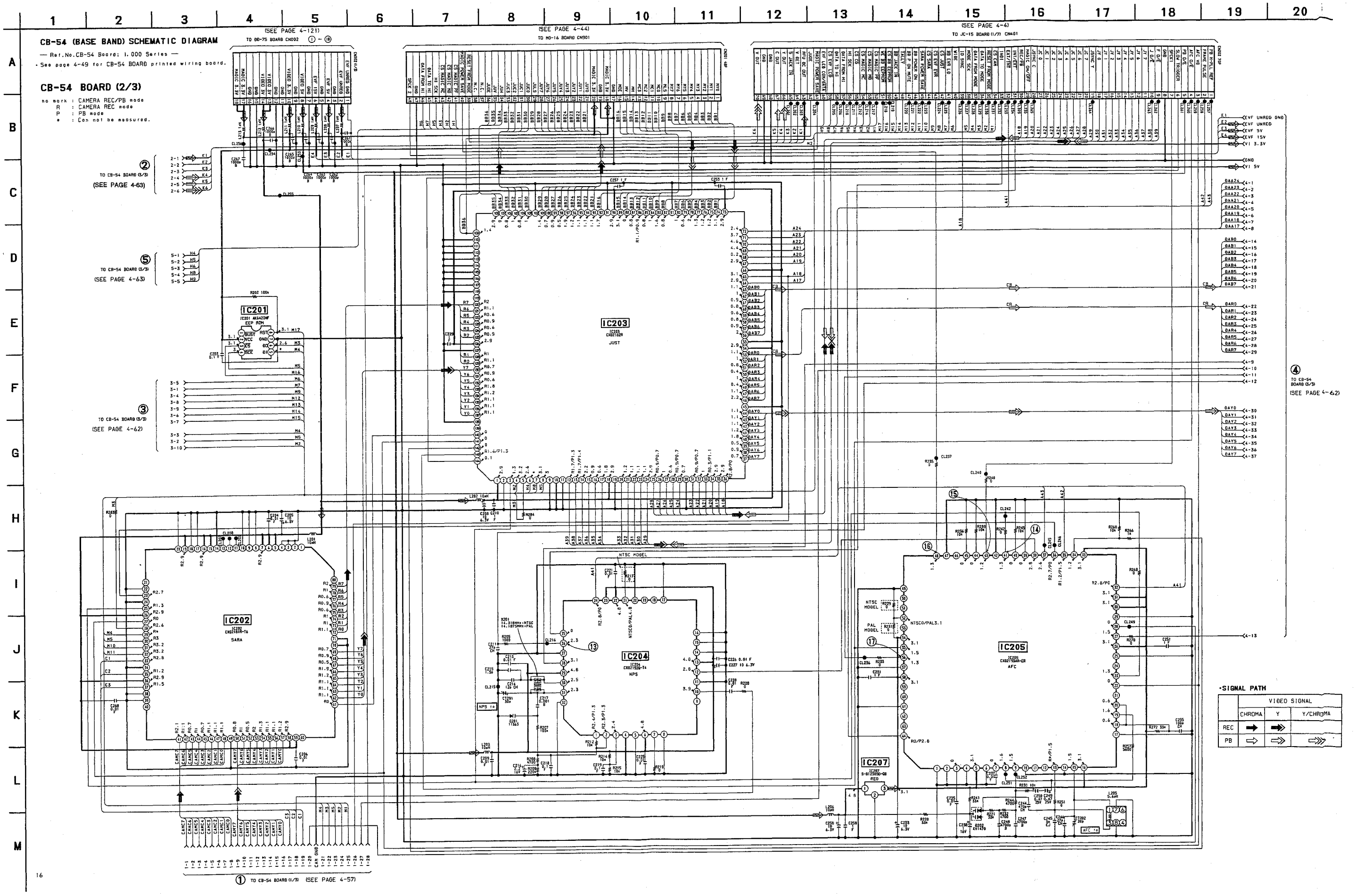
CB-54 (BASE BAND) SCHEMATIC DIAGRAM

— Ref.No.CB-54 Board: 1,000 Series —

• See page 4-49 for CB-54 BOARD printed wiring board.

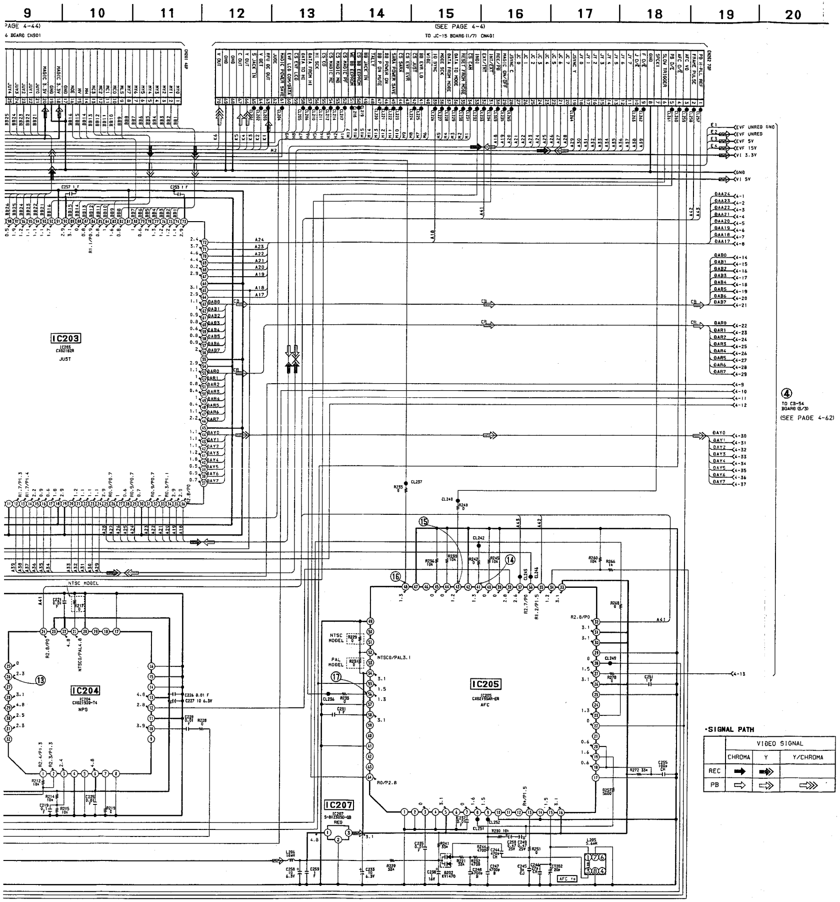
CB-54 BOARD (2/3)

no mark : CAMERA REC/PB mode
R : CAMERA REC mode
P : PB mode
* : Can not be measured.


(SEE PAGE 4-121)
TO DD-75 BOARD CN002 ① ~ ⑱
(SEE PAGE 4-44)
TO NO-16 BOARD CN901
(SEE PAGE 4-4)
TO JC-15 BOARD (1/7) CN401
② TO CB-54 BOARD (3/3) (SEE PAGE 4-63)
⑤ TO CB-54 BOARD (3/3) (SEE PAGE 4-63)
③ TO CB-54 BOARD (3/3) (SEE PAGE 4-62)
④ TO CB-54 BOARD (3/3) (SEE PAGE 4-62)
① TO CB-54 BOARD (1/3) (SEE PAGE 4-57)
IC201 AK6420MF EEP ROM
IC202 CXD2161R-T6 SARA
IC203 CXD2162R JUST
IC204 CXD2152Q-T4 NPS
IC205 CXD2155AR-ER AFC
IC207 S-81235DG-QB REG
NTSC MODEL
PAL MODEL
X201 14.318MHz:NTSC 14.1875MHz:PAL

•SIGNAL PATH

	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC	➡	➡	
PB	⇨	⇨	⇨


9
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14
15
16
17
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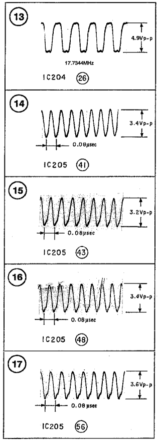
20
PAGE 4-44)
BOARD CN301
(SEE PAGE 4-4)
TO JC-15 BOARD (1/7) CN401
IC203
CXD2182R
JUST
IC204
CXD2192Q-T4
NPS
IC205
CXD2193AR-ER
AFC
IC207
S-81250SG-GB
REG
NTSC MODEL
PAL MODEL
④
TO CB-54 BOARD (3/3)
(SEE PAGE 4-62)
EVF UNREG GND
EVF UNREG
EVF 5V
EVF 15V
VI 3.3V
GND
VI 5V
AFC
⑬
⑭
⑮
⑯
⑰

•SIGNAL PATH

	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC	➡	➡	
PB	⇨	⇨	⇨

CB-54 BOARD (2/3)
(CAMERA REC/PB)



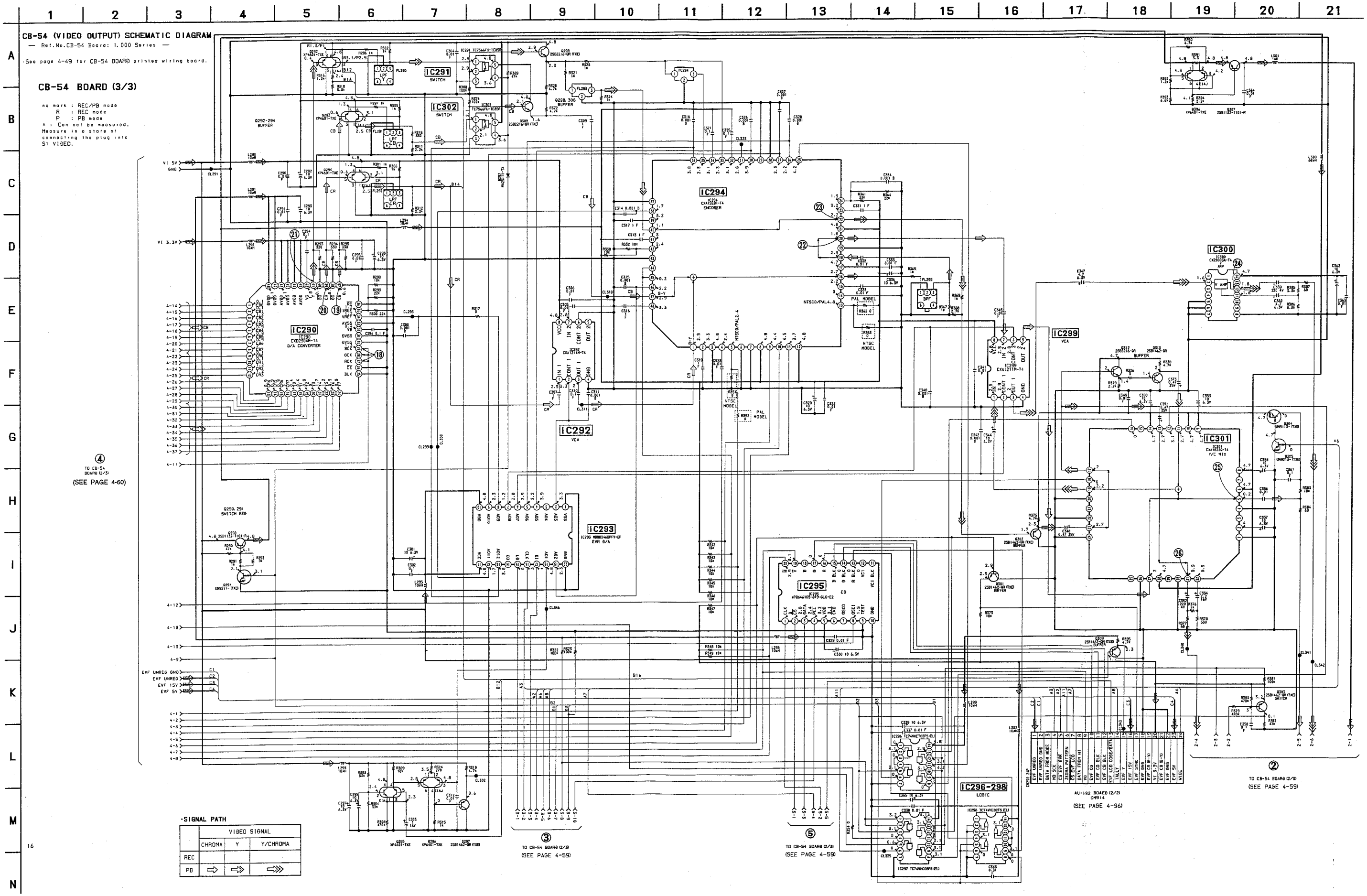
CB-54 (VIDEO OUTPUT) SCHEMATIC DIAGRAM

— Ref.No.CB-54 Board: 1,000 Series —

·See page 4-49 for CB-54 BOARD printed wiring board.

CB-54 BOARD (3/3)

no mark : REC/PB mode
R : REC mode
P : PB mode
* : Can not be measured.
Measure in a state of connecting the plug into S1 VIDEO.


1
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14
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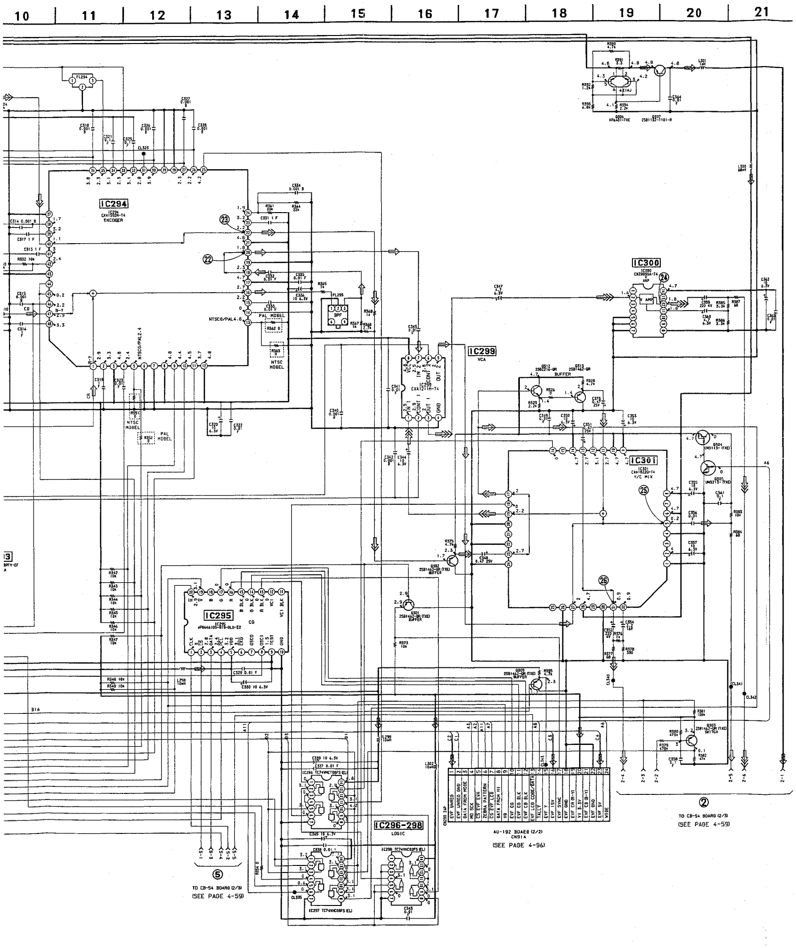
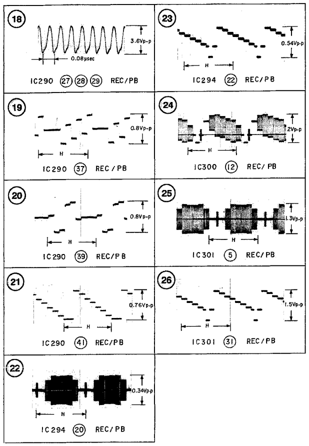
16
17
18
19
20
21
A
B
C
D
E
F
G
H
I
J
K
L
M
N
IC291 SWITCH
IC302 SWITCH
Q292-294 BUFFER
Q298, 308 BUFFER
IC294 CXA1552R-T4 ENCODER
IC290 CXD2306Q-T4 D/A CONVERTER
IC292 CXA1271M-T4 VCA
IC293 MB88346BPFV-EF EVR D/A
IC299 VCA
IC300 CXZ8005A-T4 AMP
IC301 CXA1622Q-T4 Y/C MIX
IC295 CD
IC296-298 LOGIC
Q290, 291 SWITCH REG
NTSC/PAL
PAL MODEL
NTSC MODEL
④ TO CB-54 BOARD (2/3) (SEE PAGE 4-60)
③ TO CB-54 BOARD (2/3) (SEE PAGE 4-59)
⑤ TO CB-54 BOARD (2/3) (SEE PAGE 4-59)
② TO CB-54 BOARD (2/3) (SEE PAGE 4-59)
AU-192 BOARD (2/2) CN914 (SEE PAGE 4-96)
VI 5V
GND
VI 3.3V
EVF UNREG GND
EVF UNREG
EVF 15V
EVF 5V
16

·SIGNAL PATH

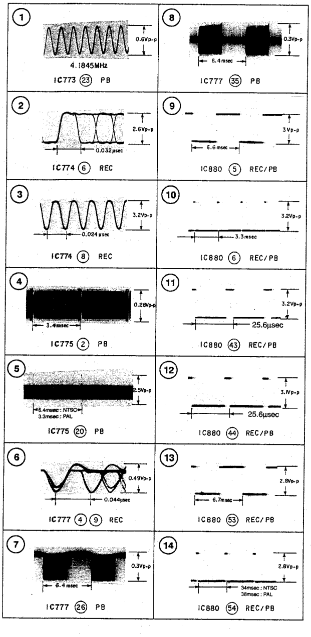
	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC			
PB	⇨	⇨»	⇨»»


10
11
12
13
14
15
16
17
18
19
20
21
IC294
CXA1592M-T4
ENCODER
IC295
CG
IC296-298
LOGIC
IC299
VCA
IC300
AMP
IC301
Y/C MIX
BUFFER
SWITCH
NTSC/PAL
NTSC MODEL
PAL MODEL
⑤
TO CB-54 BOARD (2/3)
(SEE PAGE 4-59)
②
TO CB-54 BOARD (2/3)
(SEE PAGE 4-59)
AU-192 BOARD (2/2)
CN914
(SEE PAGE 4-96)

CB-54 BOARD (3/3)



RS-73 BOARD (1/2)



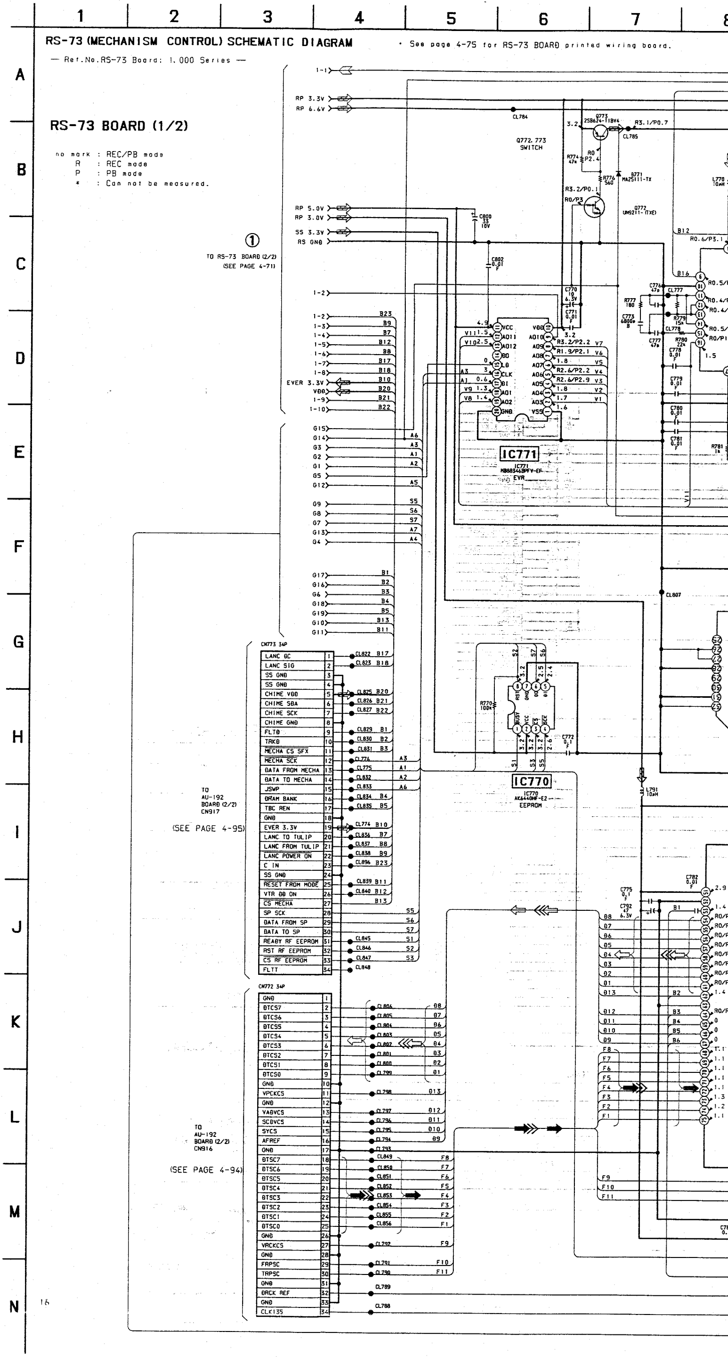
RS-73 (MECHANISM CONTROL) SCHEMATIC DIAGRAM

— Ref.No.RS-73 Board: 1,000 Series —

• See page 4-75 for RS-73 BOARD printed wiring board.

RS-73 BOARD (1/2)

no mark : REC/PB mode
R : REC mode
P : PB mode
* : Can not be measured.



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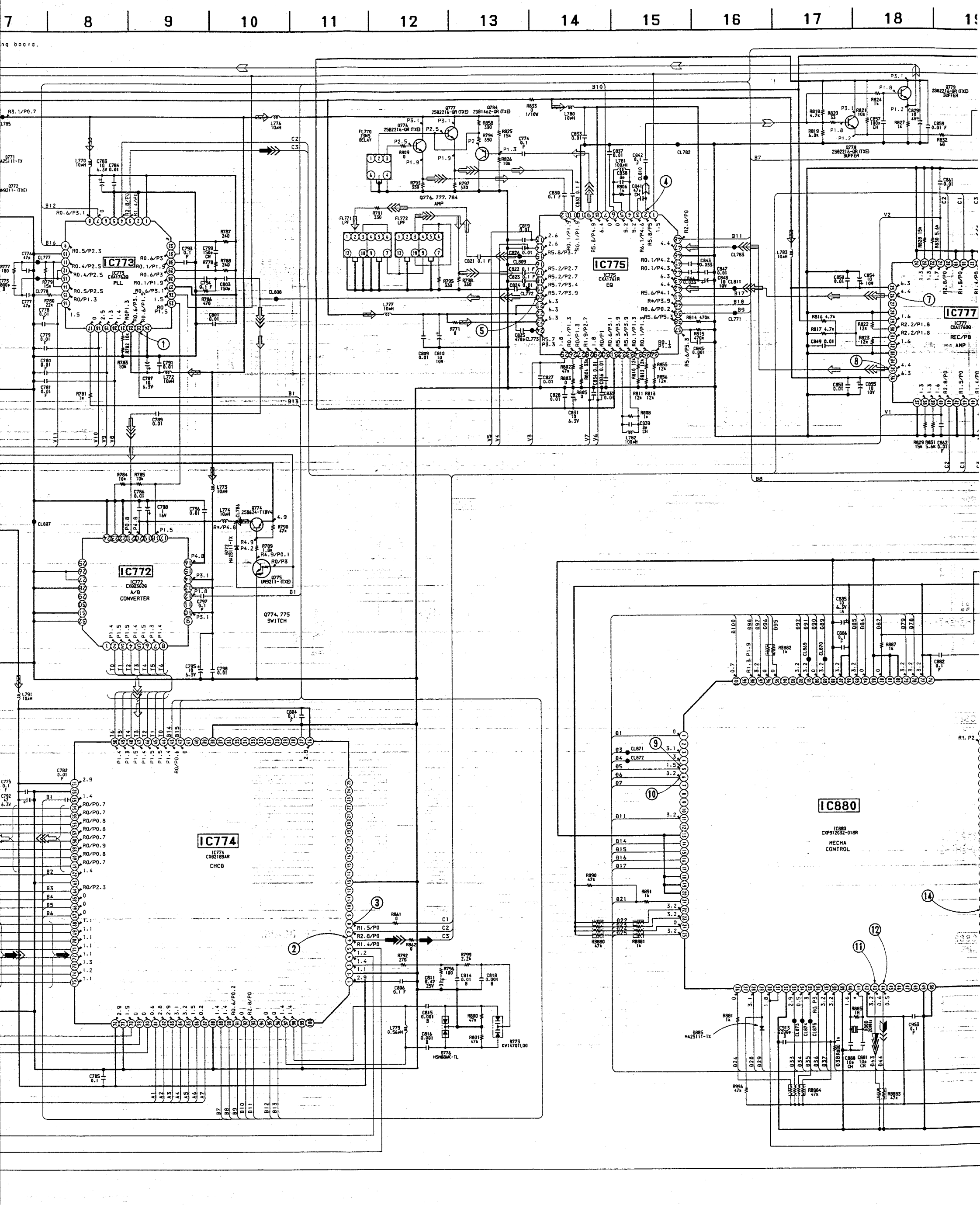
A
B
C
D
E
F
G
H
I
J
K
L
M
N
①
TO RS-73 BOARD (2/2)
(SEE PAGE 4-71)
1-1
RP 3.3V
RP 6.6V
RP 5.0V
RP 3.0V
SS 3.3V
RS GND
EVER 3.3V
VDD
Q773 2SB624-T1BV4
Q772, 773 SWITCH
Q772 UN9211-(TX)E
D771 MA2S111-TX
C800 33 10V
C802 0.01
IC771
IC771 MB88346BPFV-EF EVR
IC770
IC770 AK6440HF-E2 EEPROM
R770 100k
C772 0.1
L791 10μH
CL807
CN773 34P
1 LANC DC
2 LANC SIG
3 SS GND
4 SS GND
5 CHIME VDD
6 CHIME SDA
7 CHIME SCK
8 CHIME GND
9 FLTD
10 TRKD
11 MECHA CS SFX
12 MECHA SCK
13 DATA FROM MECHA
14 DATA TO MECHA
15 JSWP
16 DRAM BANK
17 TBC REN
18 GND
19 EVER 3.3V
20 LANC TO TULIP
21 LANC FROM TULIP
22 LANC POWER ON
23 C IN
24 SS GND
25 RESET FROM MODE
26 VTR DD ON
27 CS MECHA
28 SP SCK
29 DATA FROM SP
30 DATA TO SP
31 READY RF EEPROM
32 RST RF EEPROM
33 CS RF EEPROM
34 FLTT
TO AU-192 BOARD (2/2) CN917
(SEE PAGE 4-95)
CN772 34P
1 GND
2 DTCS7
3 DTCS6
4 DTCS5
5 DTCS4
6 DTCS3
7 DTCS2
8 DTCS1
9 DTCS0
10 GND
11 VPCKCS
12 GND
13 VADVCS
14 SCDVCS
15 SYCS
16 AFREF
17 GND
18 DTSC7
19 DTSC6
20 DTSC5
21 DTSC4
22 DTSC3
23 DTSC2
24 DTSC1
25 DTSC0
26 GND
27 VRCKCS
28 GND
29 FRPSC
30 TRPSC
31 GND
32 DRCK REF
33 GND
34 CLK135
TO AU-192 BOARD (2/2) CN916
(SEE PAGE 4-94)
16

7
8
9
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13
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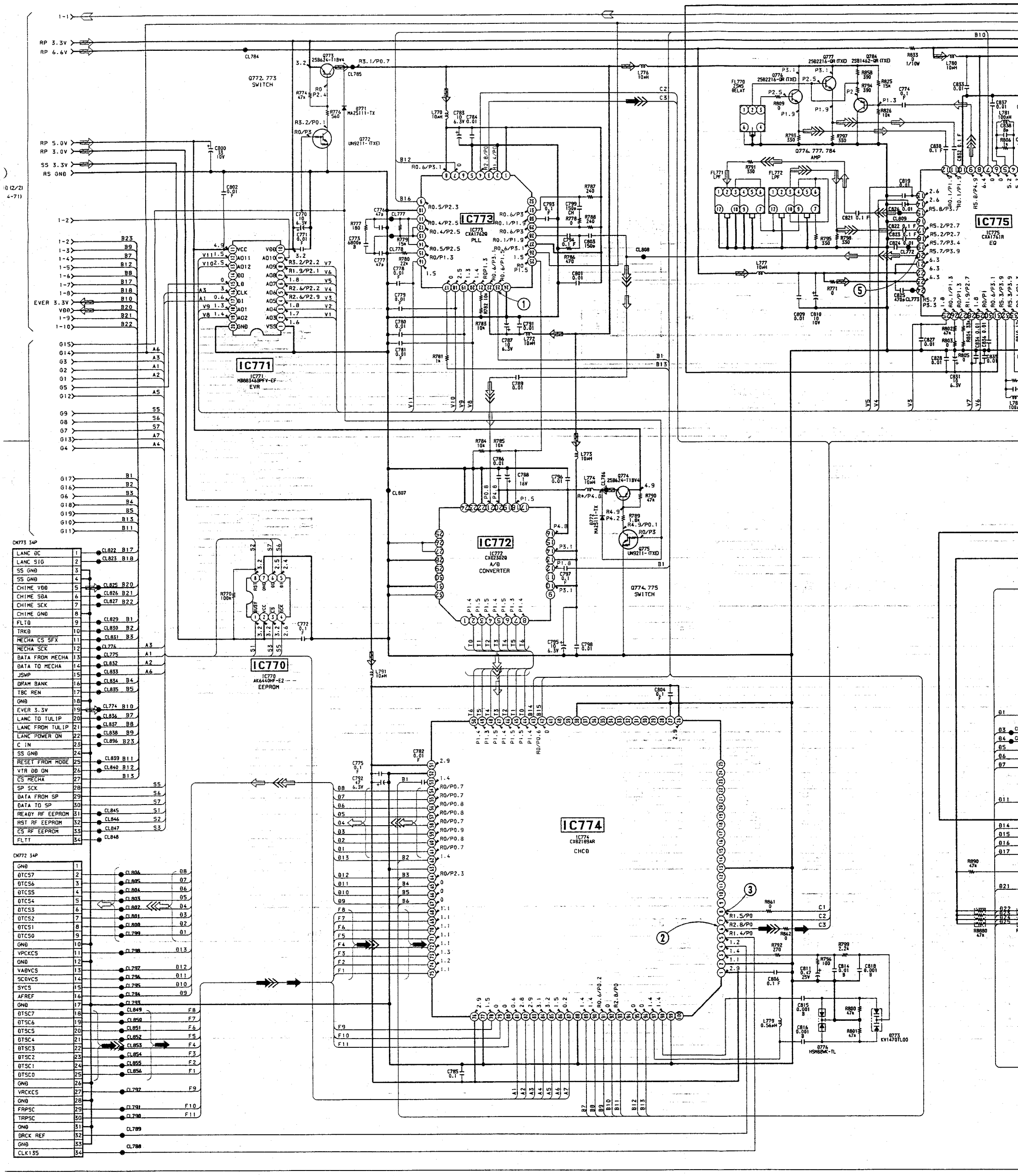
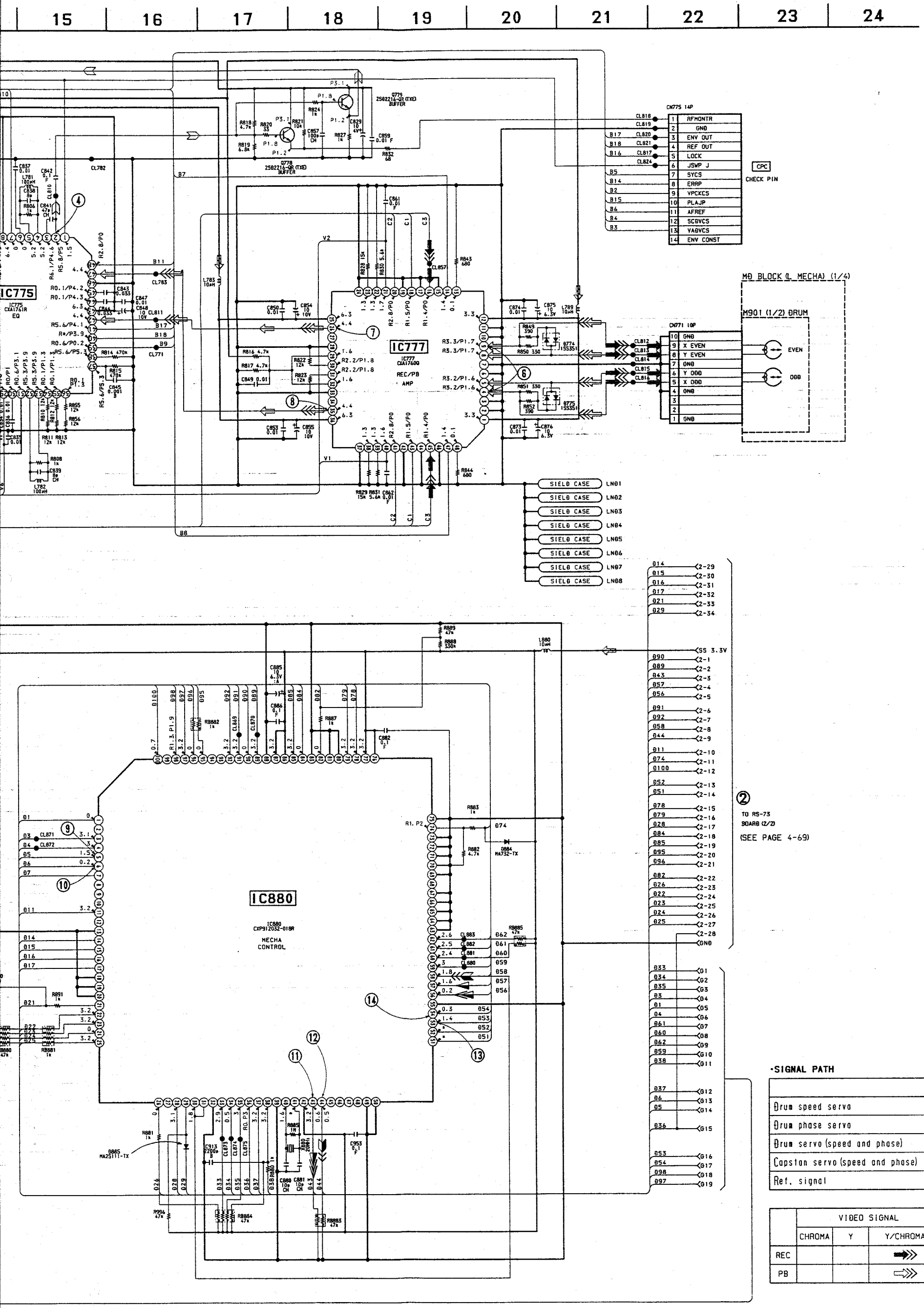
18
ng board.
IC773
CXA1762Q
PLL
IC775
CXA1761R
EQ
IC772
CX023020
A/D CONVERTER
Q774, 775
SWITCH
Q776, 777, 784
AMP
IC774
CX02189AR
CHCB
IC777
CXA1760Q
REC/PB AMP
IC880
CXP912032-018R
MECHA CONTROL
Q778
2SB2216-QR (TXE)
BUFFER
Q779
2SB2216-QR (TXE)
BUFFER
FL770
23MS
DELAY
FL771
LPF
FL772
LPF

MATIC DIAGRAM

• See page 4-75 for RS-73 BOARD printed wiring board.


RP 3.3V
RP 6.6V
RP 5.0V
RP 3.0V
SS 3.3V
RS GND
EVER 3.3V
Q772, 773 SWITCH
Q773 2SB624-T1BV4
Q772 UN9211-(TXE)
D771 MA2S111-TX
IC771
IC771 MB88346BPFV-EF
EVR
IC773
IC773 CXA1762Q
PLL
IC772
IC772 CXD2302Q
A/D CONVERTER
IC770
IC770 AK6440HF-E2
EEPROM
IC774
IC774 CXD2189AR
CHCD
IC775
IC775 CXA1761R
EQ
Q774, 775 SWITCH
Q774 2SB624-T1BV4
Q775 UN9211-(TXE)
D772 MA2S111-TX
Q776, 777, 784 AMP
Q776 2SD2216-QR (TXE)
Q777 2SD2216-QR (TXE)
Q784 2SB1462-QR (TXE)
FL770 25MS BELAT
FL771 LPF
FL772 LPF
D776 HSM88WK-TL
D773 KV1470TL00
CN773 34P
1 LANC DC
2 LANC SIG
3 SS GND
4 SS GND
5 CHIME VDD
6 CHIME SDA
7 CHIME SCK
8 CHIME GND
9 FLTD
10 TRKD
11 MECHA CS SFX
12 MECHA SCK
13 DATA FROM MECHA
14 DATA TO MECHA
15 JSWP
16 DRAM BANK
17 TBC REN
18 GND
19 EVER 3.3V
20 LANC TO TULIP
21 LANC FROM TULIP
22 LANC POWER ON
23 C IN
24 SS GND
25 RESET FROM MODE
26 VTR DD ON
27 CS MECHA
28 SP SCK
29 DATA FROM SP
30 DATA TO SP
31 READY RF EEPROM
32 RST RF EEPROM
33 CS RF EEPROM
34 FLTT
CN772 34P
1 GND
2 DTCS7
3 DTCS6
4 DTCS5
5 DTCS4
6 DTCS3
7 DTCS2
8 DTCS1
9 DTCS0
10 GND
11 VPCKCS
12 GND
13 VADVCS
14 SCDVCS
15 SYCS
16 AFREF
17 GND
18 DTSC7
19 DTSC6
20 DTSC5
21 DTSC4
22 DTSC3
23 DTSC2
24 DTSC1
25 DTSC0
26 GND
27 VRCKCS
28 GND
29 FRPSC
30 TRPSC
31 GND
32 DRCK REF
33 GND
34 CLK135
①
②
③
⑤


15
16
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24
IC775
IC775 CXA1761R EQ
IC777
IC777 CXA1760Q REC/PB AMP
IC880
IC880 CXP912032-018R MECHA CONTROL
Q778 2SD2216-QR(TX)E) BUFFER
Q779 2SD2216-QR(TX)E) BUFFER
CN775 14P
1 RFMONTR
2 GND
3 ENV OUT
4 REF OUT
5 LOCK
6 JSWP J
7 SYCS
8 ERRP
9 VPCKCS
10 PLAJP
11 AFREF
12 SCBVCS
13 YAGVCS
14 ENV CONST
CPC
CHECK PIN
MD BLOCK (L MECHA) (1/4)
M901 (1/2) DRUM
CN771 10P
10 GND
9 X EVEN
8 Y EVEN
7 GND
6 Y ODD
5 X ODD
4 GND
3
2
1 GND
EVEN
ODD
SIELD CASE
LN01
LN02
LN03
LN04
LN05
LN06
LN07
LN08
SS 3.3V
GND
②
TO RS-73 BOARD (2/2)
(SEE PAGE 4-69)
⑦
⑧
⑥
④
⑨
⑩
⑪
⑫
⑬
⑭

·SIGNAL PATH

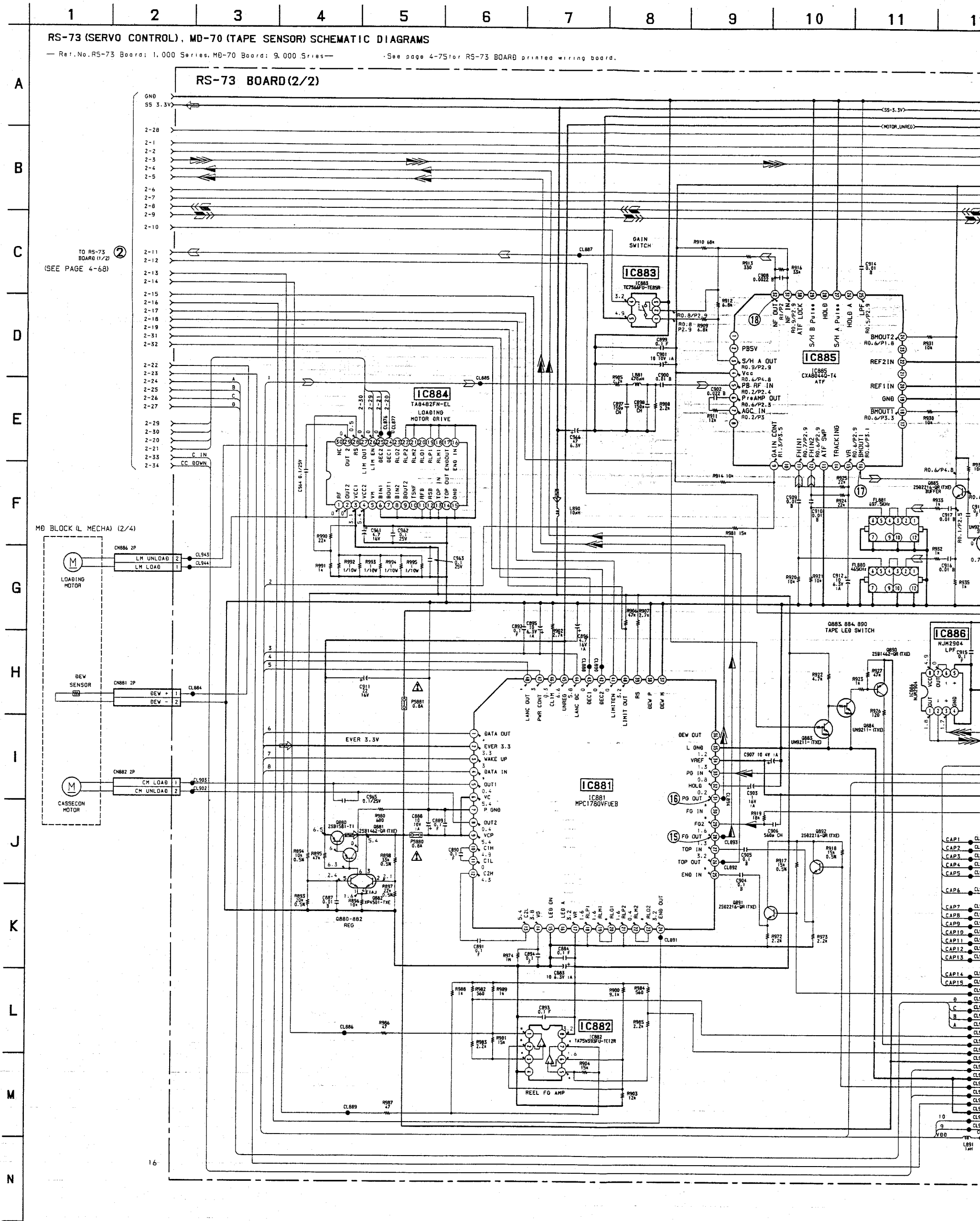
	REC	REC/PB	PB
Drum speed servo		▶	
Drum phase servo		▶▶	
Drum servo (speed and phase)		▶▶▶	
Capstan servo (speed and phase)		▶»»	
Ref. signal			▷

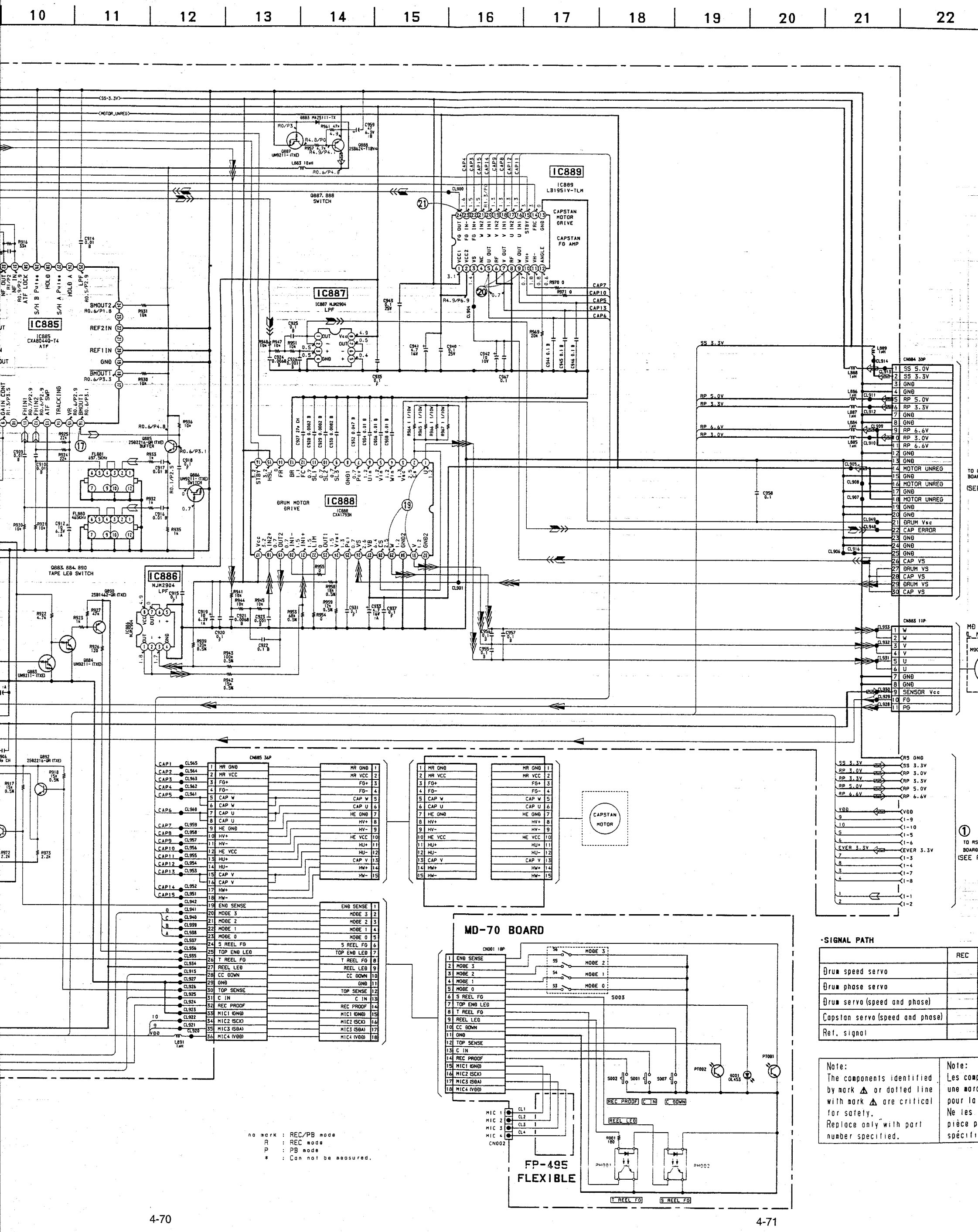
	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC			➡»»	➡
PB			⇨»»	⇨

RS-73 (SERVO CONTROL), MD-70 (TAPE SENSOR) SCHEMATIC DIAGRAMS

— Ref.No.RS-73 Board; 1,000 Series, MD-70 Board; 9,000 Sries—

・See page 4-75 for RS-73 BOARD printed wiring board.


1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
RS-73 BOARD (2/2)
GND
SS 3.3V
TO RS-73 BOARD (1/2) ②
(SEE PAGE 4-68)
GAIN SWITCH
IC883
TC7S66FU-TE85R
IC884
TA8482FN-EL
LOADING MOTOR DRIVE
IC885
CXA8044Q-T4
ATF
IC881
MPC1780VFUEB
IC882
TA75W393FU-TE12R
REEL FG AMP
IC886
NJM2904
LPF
MD BLOCK (L MECHA) (2/4)
LOADING MOTOR
DEW SENSOR
CASSECON MOTOR
CN886 2P
CN881 2P
CN882 2P
LM UNLOAD
LM LOAD
DEW +
DEW -
CM LOAD
CM UNLOAD
EVER 3.3V
Q880-882
REG
Q883,884,890
TAPE LED SWITCH
PS881 0.8A
PS880 0.8A
DATA OUT
EVER 3.3
WAKE UP
DATA IN
OUT1
VC
P GND
OUT2
VCP
C1H
C1L
C2H
DEW OUT
L GND
VREF
PG IN
HOLD
PG OUT
FG IN
FG2
FG OUT
TOP IN
TOP OUT
END IN
PB5V
S/H A OUT
Vcc
PB RF IN
PreAMP OUT
AGC IN
GAIN CONT
FHIN1
FHIN2
ATF SWP
TRACKING
VR
BMOUT2
BMOUT1
REF2IN
REF1IN
GND
NF OUT
NF IN
ATF LOCK
S/H B Pulse
HOLD
S/H A Pulse
HOLD A
LPF
FL881 697.5KHz
FL880 465KHz
BUFFER
⑮
⑯
⑰
⑱
C IN
CC DOWN
CAP1
CAP2
CAP3
CAP4
CAP5
CAP6
CAP7
CAP8
CAP9
CAP10
CAP11
CAP12
CAP13
CAP14
CAP15
16


10
11
12
13
14
15
16
17
18
19
20
21
22
IC885
CXA8044Q-T4
ATF
IC886
NJM2904
LPF
IC887
IC887 NJM2904
LPF
IC888
IC888
CXA1793N
DRUM MOTOR
DRIVE
IC889
IC889
LB1951V-TLM
CAPSTAN
MOTOR
DRIVE
CAPSTAN
FG AMP
Q887, 888
SWITCH
Q883, 884, 890
TAPE LED SWITCH
Q885
2SD2216-QR (TXE)
BUFFER
Q886
UN9211-(TXE)
SWITCH
S/H B Pulse
HOLD
S/H A Pulse
HOLD A
LPF
BMOUT2
REF2IN
REF1IN
GND
BMOUT1
TRACKING
ATF SWP
ATF LOCK
CN884 30P
SS 5.0V
SS 3.3V
GND
RP 5.0V
RP 3.3V
RP 6.6V
RP 3.0V
MOTOR UNREG
DRUM Vsc
CAP ERROR
CAP VS
DRUM VS
CN883 11P
W
V
U
SENSOR Vcc
FG
PG
CN885 36P
MR GND
MR VCC
FG+
FG-
CAP W
CAP U
HE GND
HV+
HV-
HE VCC
HU+
HU-
CAP V
HW+
HW-
END SENSE
MODE 3
MODE 2
MODE 1
MODE 0
S REEL FG
TOP END LED
T REEL FG
REEL LED
CC DOWN
TOP SENSE
C IN
REC PROOF
MIC1 (GND)
MIC2 (SCK)
MIC3 (SDA)
MIC4 (VDD)
CAPSTAN
MOTOR
MD-70 BOARD
CN001 18P
S003
REC PROOF
C IN
C DOWN
REEL LED
T REEL FG
S REEL FG
PH001
PH002
PT001
PT002
D001
GL453
CN002
FP-495
FLEXIBLE
EVER 3.3V
VDD
①
⑰
⑲
⑳
㉑

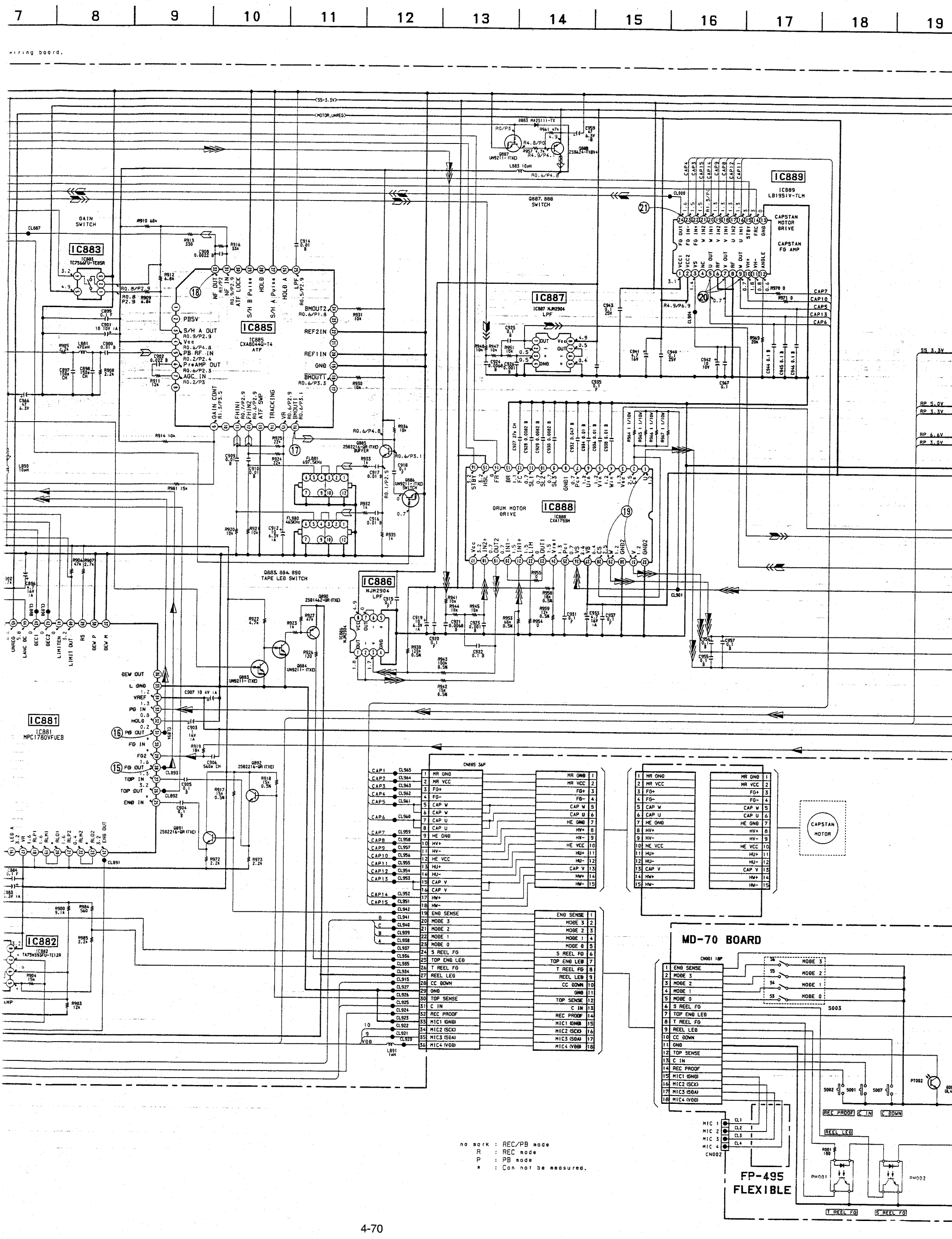
no mark : REC/PB mode
R : REC mode
P : PB mode
* : Can not be measured.

·SIGNAL PATH

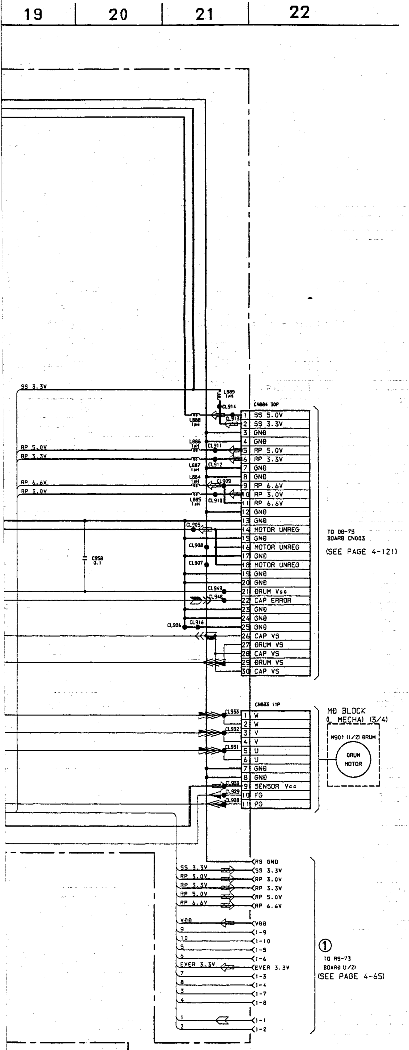
	REC
Drum speed servo	
Drum phase servo	
Drum servo (speed and phase)	
Capstan servo (speed and phase)	
Ref. signal	

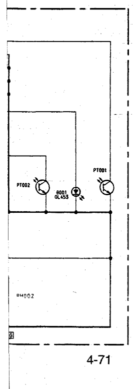
Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Note:
Les comp
une marc
pour la
Ne les
pièce p
spécifi


7
8
9
10
11
12
13
14
15
16
17
18
19
wiring board.
IC883
TC7S66FU-TE85R
GAIN SWITCH
IC885
CXA8044Q-T4
ATF
IC887
IC887 NJM2904
LPF
IC889
IC889
LB1951V-TLM
CAPSTAN MOTOR DRIVE
CAPSTAN FG AMP
Q887, 888
SWITCH
IC888
IC888
CXA1793N
DRUM MOTOR DRIVE
IC886
NJM2904
LPF
Q883, 884, 890
TAPE LED SWITCH
IC881
IC881
MPC1780VFUEB
IC882
IC882
TA75W393FU-TE12R
CN885 36P
CAPSTAN MOTOR
MD-70 BOARD
CN001 18P
S003
FP-495
FLEXIBLE
CN002
REC PROOF
C IN
C DOWN
REEL LED
T REEL FG
S REEL FG
PH001
PH002
PT002

no mark : REC/PB mode
R : REC mode
P : PB mode
* : Can not be measured.


19
20
21
22
SS 3.3V
L889 1μH
CL914
CN884 30P
L888 1μH
CL913
1 SS 5.0V
2 SS 3.3V
3 GND
4 GND
5 RP 5.0V
6 RP 3.3V
7 GND
8 GND
9 RP 6.6V
10 RP 3.0V
11 RP 6.6V
12 GND
13 GND
14 MOTOR UNREG
15 GND
16 MOTOR UNREG
17 GND
18 MOTOR UNREG
19 GND
20 GND
21 DRUM Vsc
22 CAP ERROR
23 GND
24 GND
25 GND
26 CAP VS
27 DRUM VS
28 CAP VS
29 DRUM VS
30 CAP VS
RP 5.0V
RP 3.3V
RP 6.6V
RP 3.0V
L886 1μH
L887 1μH
L884 1μH
L885 1μH
CL911
CL912
CL909
CL910
CL905
CL908
CL907
CL949
CL948
CL906
CL916
C958 0.1
TO DD-75 BOARD CN003
(SEE PAGE 4-121)
CN883 11P
CL933
CL932
CL931
CL930
CL929
CL928
1 W
2 W
3 V
4 V
5 U
6 U
7 GND
8 GND
9 SENSOR Vcc
10 FG
11 PG
MD BLOCK (L MECHA) (3/4)
M901 (1/2) DRUM
DRUM MOTOR
RS GND
SS 3.3V
RP 3.0V
RP 3.3V
RP 5.0V
RP 6.6V
VDD
9
10
5
6
EVER 3.3V
7
8
3
4
1
2
1-9
1-10
1-5
1-6
1-3
1-4
1-7
1-8
1-1
1-2
①
TO RS-73 BOARD (1/2)
(SEE PAGE 4-65)


PT002
D001 GL453
PT001
PH002

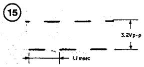
·SIGNAL PATH

	REC	REC/PB	PB
Drum speed servo		➢	
Drum phase servo		≫	
Drum servo (speed and phase)		⋙	
Capstan servo (speed and phase)		➢»	
Ref. signal			▷

Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

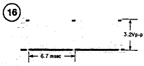
RS-73 BOARD (2/2)

⑮



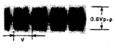
IC881 ㉘ REC/PB

⑯



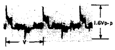
IC881 ㉛ REC/PB

⑰



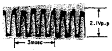
IC885 ⑯ PB

⑱



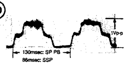
IC885 ㉜ PB

⑲



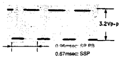
IC888 ① ㉙ ㉛ REC/PB

⑳



IC889 ⑤ ⑦ ⑨ REC/PB

㉑



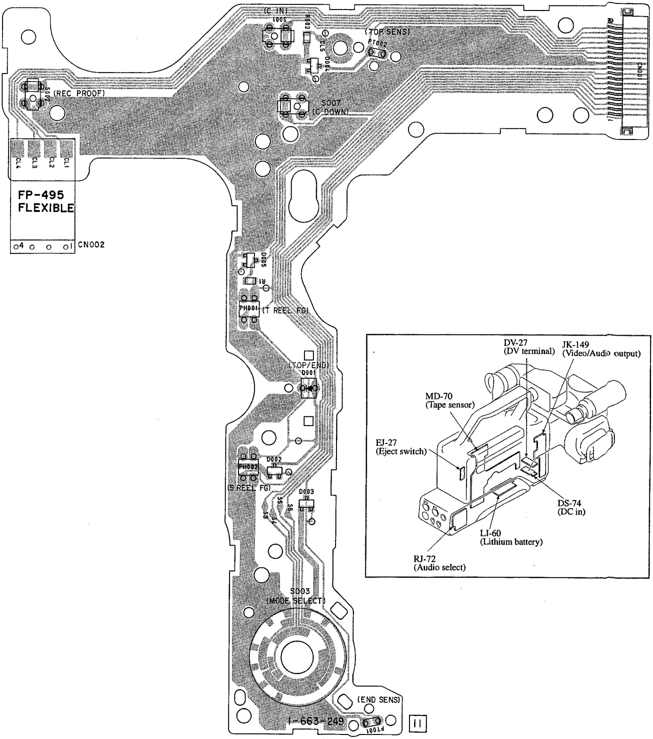
IC889 ㉔ REC/PB

MD-70 (TAPE SENSOR) PRINTED WIRING BOARD

— Ref. No. MD-70 Board; 9,000 Series —

There are few cases that the part printed on this diagram isn't mounted in this model.

MD-70 BOARD


(C IN)
S001
R002
CL5
D004
(TOP SENS)
PT002
CN001
16
1
S002 (REC PROOF)
S007
(C DOWN)
CL4
CL3
CL2
CL1
FP-495
FLEXIBLE
4
1
CN002
D005
R1
PH001 (T REEL FG)
(TOP/END)
D001
D002
PH002
(S REEL FG)
D003
S5
S6
S8
S4
S003
(MODE SELECT)
(END SENS)
1-663-249
PT001
11
DV-27
(DV terminal)
JK-149
(Video/Audio output)
MD-70
(Tape sensor)
EJ-27
(Eject switch)
DS-74
(DC in)
LI-60
(Lithium battery)
RJ-72
(Audio select)

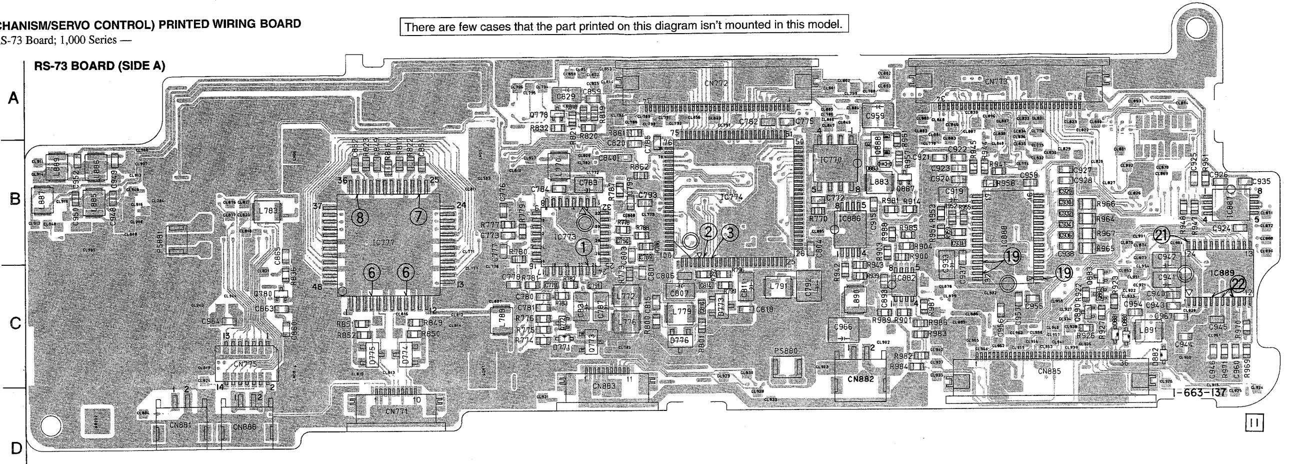
RS-73 BOARD

C770	E-5
C771	E-5
C772	B-7
C773	B-4
C774	G-5
C775	A-7
C776	B-4
C777	B-4
C778	C-4
C779	C-5
C780	C-5
C781	C-5
C782	A-6
C783	B-5
C784	B-5
C785	B-6
C786	G-6
C787	C-5
C788	G-6
C789	B-5
C791	C-5
C792	C-7
C793	B-5
C794	B-5
C795	F-7
C796	F-6
C797	F-6
C798	F-7
C799	B-5
C800	G-6
C801	C-5
C802	E-5
C803	C-5
C804	C-7
C806	C-6
C809	F-5
C810	E-5
C811	C-6
C814	C-6
C815	C-6
C816	C-6
C818	C-6
C819	F-5
C821	F-5
C822	F-5
C823	F-5
C824	F-5
C825	F-5
C826	F-5
C827	E-5
C828	F-5
C829	A-5
C830	F-5
C831	C-5
C832	F-5
C833	F-5
C834	E-5
C835	E-5
C836	F-5
C837	F-5
C838	G-5
C839	F-5
C841	F-5
C842	F-5
C843	F-5
C844	F-5
C845	F-4
C847	F-4
C848	F-4
C849	B-3
C850	F-4
C853	F-3
C854	F-4
C855	F-3
C857	G-5
C859	A-5
C861	F-4
C862	F-3
C873	E-3
C874	E-4
C875	E-4
C876	F-3
C880	E-10
C881	E-9
C882	G-9
C883	E-8
C884	E-8
C885	G-10
C886	F-9
C887	E-7
C888	E-8
C889	E-8
C890	E-8
C891	E-8
C892	E-9
C893	C-7
C894	E-8
C895	E-9
C896	E-8
C897	F-8
C898	F-8
C899	G-7
C900	G-8
C901	G-7
C902	G-8
C903	F-8
C904	F-8
C905	F-8
C906	F-8
C907	F-8
C908	G-8
C909	F-8
C910	F-7
C911	E-7
C912	F-7
C913	E-10
C914	G-8
C915	B-7
C916	F-7
C917	F-7
C918	G-7
C919	B-8
C920	B-8
C921	B-8
C922	B-8
C923	B-8
C924	B-10
C925	B-10
C926	B-10
C927	B-9
C928	B-9
C929	B-9
C930	B-9
C931	B-8
C932	B-9
C933	C-8
C934	B-9
C935	B-10
C936	B-9
C937	C-8
C938	B-9
C940	C-10
C941	C-10
C942	C-10
C943	C-10
C944	C-10
C945	C-10
C946	C-10
C953	E-9
C955	C-9
C956	C-8
C957	C-8
C958	B-8
C959	A-7
C961	F-2
C962	F-1
C963	E-2
C964	C-2
C965	E-8
C966	C-7
C967	C-10
CN771	D-4
CN772	A-6
CN773	A-8
CN775	C-2
CN881	D-2
CN882	C-7
CN883	D-5
CN884	F-1
CN885	C-9
CN886	D-2
D771	C-5
D772	G-6
D773	C-6
D774	C-4
D775	C-3
D776	C-6
D883	B-7
D884	G-9
D885	E-10
FL770	G-6
FL771	F-6
FL772	E-6
FL880	E-7
FL881	F-7
IC770	B-7
IC771	E-5
IC772	F-6
IC773	B-5
IC774	B-6
IC775	F-5
IC777	B-4
IC880	F-10
IC881	E-8
IC882	C-8
IC883	G-8
IC884	F-2
IC885	G-8
IC886	B-7
IC887	B-10
IC888	B-8
IC889	C-10
L770	B-5
L772	C-5
L773	F-7
L774	G-6
L776	C-5
L777	E-6
L779	C-6
L780	G-5
L781	G-5
L782	F-5
L783	B-2
L789	C-4
L791	C-7
L880	G-9
L881	F-8
L883	B-7
L884	F-1
L885	B-1
L886	B-1
L887	B-1
L888	G-1
L889	B-1
L890	C-7
L891	C-10
PS880	C-7
PS881	B-2
Q772	C-5
Q773	C-5
Q774	G-7
Q775	G-6
Q776	G-5
Q777	G-5
Q778	A-5
Q779	G-5
Q784	G-5
Q880	E-7
Q881	E-7
Q882	E-7
Q883	C-9
Q884	C-9
Q885	G-7
Q886	G-7
Q887	B-8
Q888	B-7
Q890	C-9
Q891	E-9
Q892	E-8
R770	B-7
R771	E-5
R774	C-5
R776	C-5
R777	B-4
R778	B-5
R779	B-4
R780	C-4
R781	C-5
R782	C-5
R783	C-5
R784	F-6
R785	F-6
R786	B-5
R787	B-5
R788	B-5
R789	G-6
R790	G-6
R791	F-5
R792	C-6
R793	F-5
R794	G-5
R795	F-6
R796	C-6
R797	G-5
R798	F-5
R799	C-6
R800	C-6
R801	C-6
R802	E-5
R803	E-5
R804	E-5
R805	E-5
R806	G-5
R808	E-5
R809	G-5
R810	E-5
R811	E-5
R812	F-5
R813	E-5
R814	F-4
R815	F-5
R816	B-3
R817	B-4
R818	A-5
R819	A-5
R820	A-5
R821	A-5
R822	B-4
R823	B-3
R824	G-5
R825	G-5
R826	G-5
R827	G-5
R828	F-4
R829	F-3
R830	F-4
R831	F-3
R832	A-5
R833	G-5
R843	F-4
R844	F-3
R849	C-4
R850	C-4
R851	C-3
R852	C-3
R855	F-5
R856	F-5
R858	G-5
R861	B-5
R862	B-5
R880	F-9
R881	E-10
R882	F-9
R883	F-9
R885	E-9
R887	G-9
R888	G-9
R889	G-9
R890	E-10
R891	F-10
R893	F-7
R894	E-7
R895	E-7
R896	E-7
R897	E-7
R898	E-7
R900	B-8
R901	C-8
R902	E-9
R903	C-7
R904	B-8
R905	F-8
R906	E-9
R907	E-9
R908	F-8
R909	G-8
R910	G-7
R911	F-8
R912	G-8
R913	G-8
R914	B-8
R916	G-8
R917	E-9
R918	E-9
R919	F-8
R920	F-8
R921	F-7
R922	C-9
R923	C-9
R924	F-8
R925	F-8
R926	C-9
R927	C-9
R930	G-7
R931	G-7
R932	F-7
R933	F-7
R935	F-7
R936	G-7
R939	C-7
R941	B-8
R942	C-7
R943	C-7
R944	B-8
R945	B-8
R947	B-10
R948	B-10
R951	B-10
R953	B-8
R954	B-8
R955	B-8
R957	B-8
R958	B-8
R959	B-8
R961	B-8
R964	B-9
R965	B-9
R966	B-9
R967	B-9
R969	C-10
R970	C-10
R971	C-10
R972	E-9
R973	E-8
R974	E-8
R980	E-7
R981	B-8
R982	C-8
R983	C-8
R984	C-8
R985	B-8
R986	C-8
R987	C-8
R988	B-8
R989	C-7
R990	E-2
R991	E-2
R992	E-2
R993	E-2
R994	E-2
R995	E-2
R996	E-10
RB880	E-10
RB881	E-10
RB882	F-10
RB883	F-10
RB884	E-10
RB885	F-9
X880	E-9

RS-73 (MECHANISM/SERVO CONTROL) PRINTED WIRING BOARD

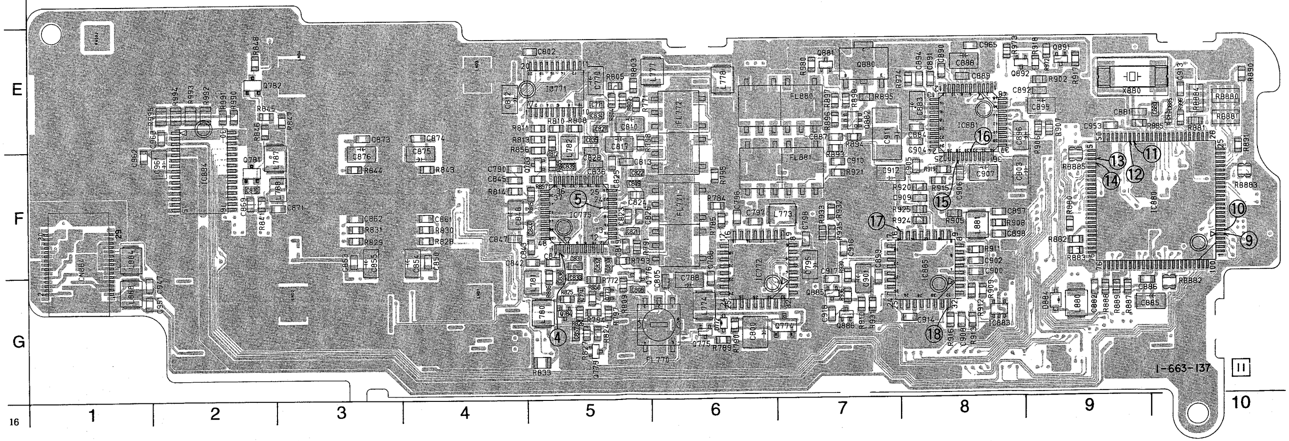
— Ref. No. RS-73 Board; 1,000 Series —

There are few cases that the part printed on this diagram isn't mounted in this model.



RS-73 BOARD (SIDE A)

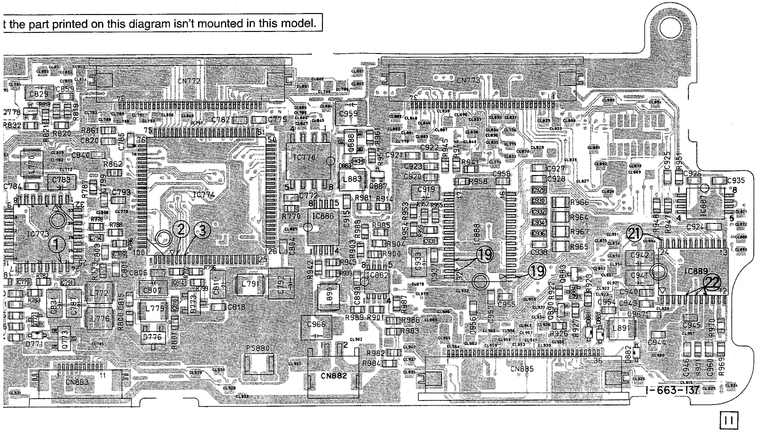
A
B
C
D
IC777
IC773
IC774
IC770
IC886
IC888
IC889
CN772
CN773
CN775
CN771
CN883
CN882
CN885
CN881
CN886
PS881
PS880
1-663-137
11

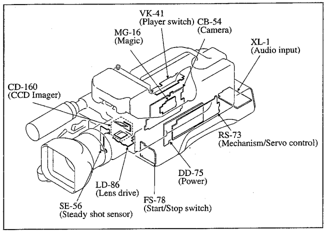


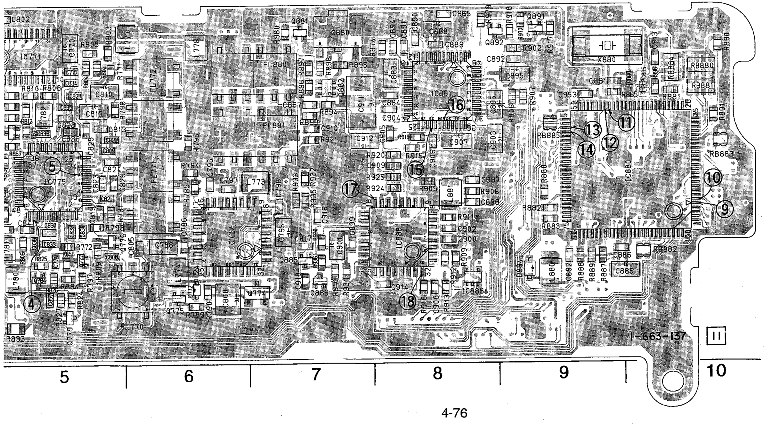
RS-73 BOARD (SIDE B)

E
F
G
1
2
3
4
5
6
7
8
9
10
IC771
IC775
IC772
IC881
IC885
IC880
IC884
FL772
FL771
FL770
FL880
FL881
X880
CN880
1-663-137
11

t the part printed on this diagram isn't mounted in this model.


CN772
CN773
IC773
IC774
IC770
IC886
IC888
IC887
IC889
CN883
CN882
CN885
PS880
1-663-137
11
①
②
③
⑲
㉑
㉒


VK-41
(Player switch)
CB-54
(Camera)
MG-16
(Magic)
XL-1
(Audio input)
CD-160
(CCD Imager)
RS-73
(Mechanism/Servo control)
DD-75
(Power)
LD-86
(Lens drive)
FS-78
(Start/Stop switch)
SE-56
(Steady shot sensor)


IC771
IC775
IC712
IC881
IC885
IC880
FL880
FL881
FL772
FL771
FL770
X880
1-663-137
11
④
⑤
⑨
⑩
⑪
⑫
⑬
⑭
⑮
⑯
⑰
⑱
5
6
7
8
9
10

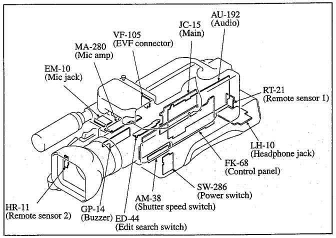
FK-68 (CONTROL PANEL) PRINTED WIRING BOARD

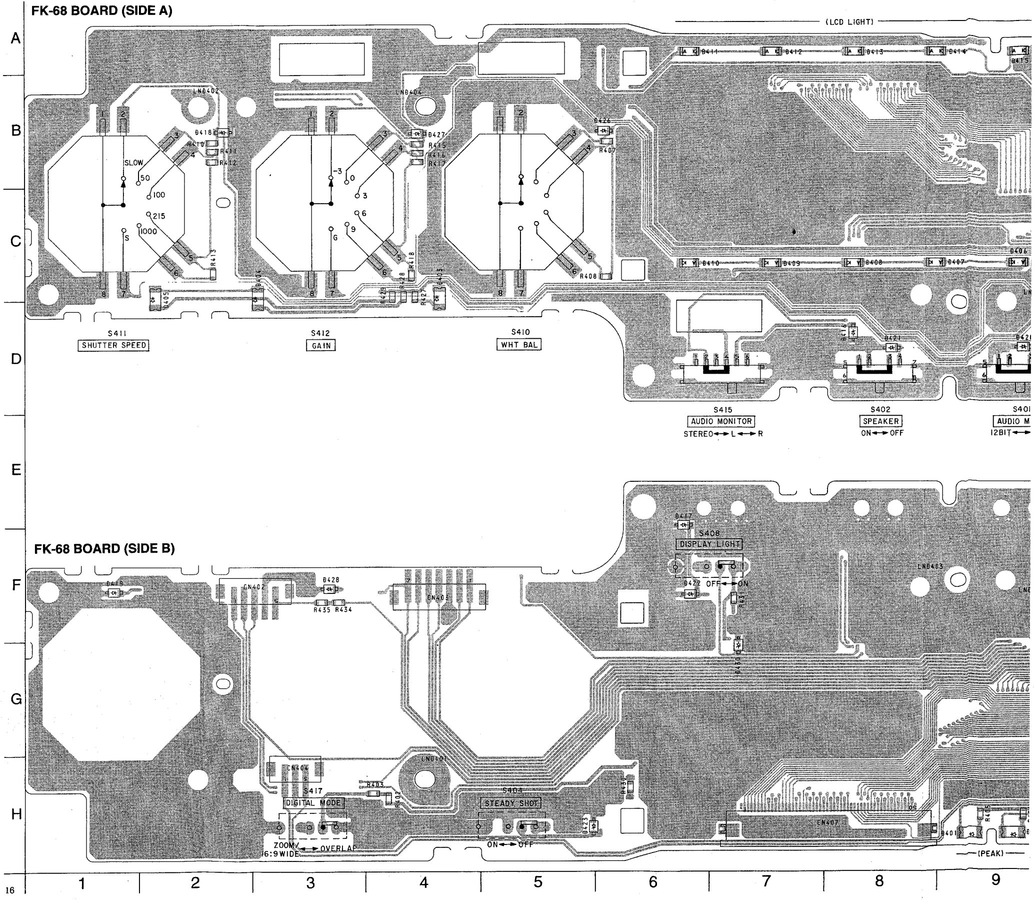
— Ref. No. FK-68 Board; 4,000 Series —

There are few cases that the part printed on this diagram isn't mounted in this model.

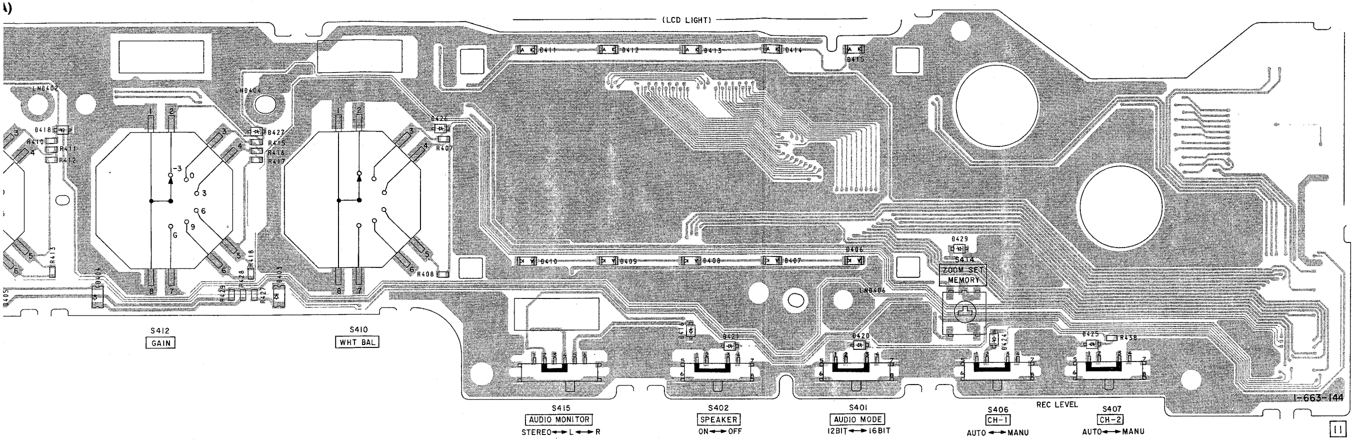
FK-68 BOARD

CN402	F-3	R401	F-10
CN403	F-4	R402	H-4
CN404	H-3	R403	H-4
CN405	H-13	R405	H-9
CN406	E-13	R406	H-9
CN407	H-8	R407	B-6
CN408	G-12	R408	C-6
CN410	G-13	R410	B-2
		R411	B-2
D401	H-9	R412	B-2
D402	H-9	R413	C-2
D406	C-9	R415	B-4
D407	C-8	R416	B-4
D408	C-8	R417	B-4
D409	C-7	R418	C-4
D410	C-6	R430	H-6
D411	A-6	R431	F-7
D412	A-7	R434	F-3
D413	A-8	R435	F-3
D414	A-9	R437	F-10
D415	A-9		
D416	D-8	S401	D-9
D417	E-6	S402	D-8
D418	B-2	S404	A-5
D419	F-1	S406	D-10
D420	D-9	S407	D-11
D421	D-8	S408	D-7
D422	F-6	S410	C-5
D423	H-5	S411	C-1
D424	D-10	S412	C-3
D425	D-11	S414	D-10
D426	B-6	S415	D-7
D427	B-4	S417	A-3
D428	F-3		
D429	C-10		

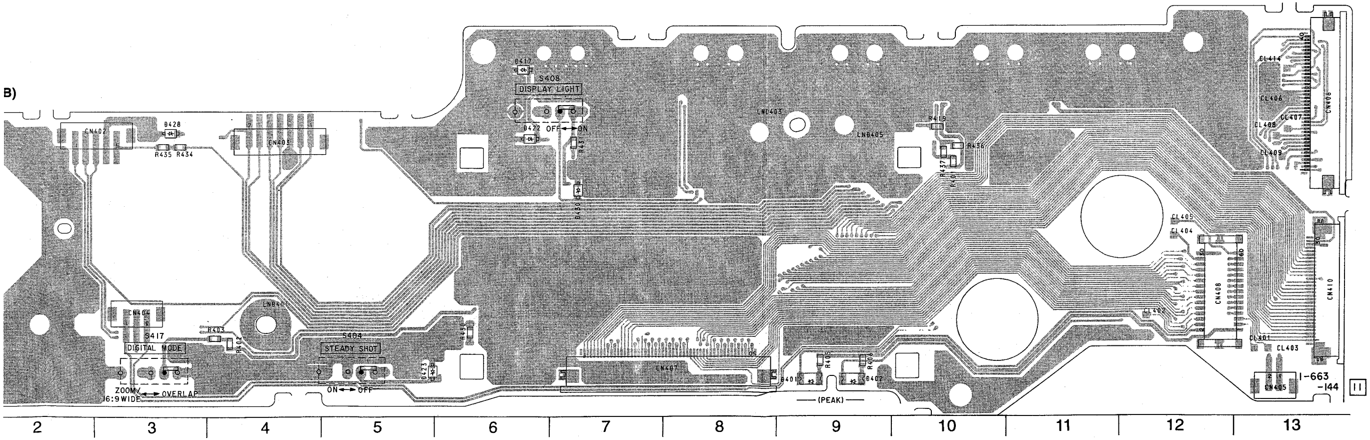

AU-192
(Audio)
JC-15
(Main)
VF-105
(EVF connector)
MA-280
(Mic amp)
EM-10
(Mic jack)
RT-21
(Remote sensor 1)
LH-10
(Headphone jack)
FK-68
(Control panel)
SW-286
(Power switch)
AM-38
(Shutter speed switch)
HR-11
(Remote sensor 2)
GP-14
(Buzzer)
ED-44
(Edit search switch)


FK-68 BOARD (SIDE A)
FK-68 BOARD (SIDE B)
A
B
C
D
E
F
G
H
1
2
3
4
5
6
7
8
9
16
(LCD LIGHT)
D411
D412
D413
D414
D415
LND402
LND404
D418
R410
R411
R412
D427
R415
R416
R417
D426
R407
SLOW
50
100
215
1000
S
-3
0
3
6
9
G
R413
D404
D405
R418
R428
D429
R427
D403
R408
D410
D409
D408
D407
D406
S411
SHUTTER SPEED
S412
GAIN
S410
WHT BAL
D416
D421
S415
AUDIO MONITOR
STEREO◄►L◄►R
S402
SPEAKER
ON◄►OFF
S401
AUDIO M
12BIT◄►
D417
S408
DISPLAY LIGHT
LND403
D422
OFF◄►ON
R431
D430
D419
CN402
D428
R435
R434
CN403
CN404
S417
DIGITAL MODE
ZOOM/16:9WIDE◄►OVERLAP
LND401
R403
R402
S404
STEADY SHOT
ON◄►OFF
D423
R430
CN407
D401
R405
(PEAK)

)


(LCD LIGHT)
D411
D412
D413
D414
D415
D410
D409
D408
D407
D406
D429
LN0402
LN0404
LN0406
D418
R410
R411
R412
R413
D427
R415
R416
R417
R418
D426
R407
R408
R428
R429
R427
D403
D404
D405
D421
D420
D424
D425
R438
S412
GAIN
S410
WHT BAL
S414
ZOOM SET
MEMORY
S415
AUDIO MONITOR
STEREO ◄► L ◄► R
S402
SPEAKER
ON ◄► OFF
S401
AUDIO MODE
12BIT ◄► 16BIT
REC LEVEL
S406
CH-1
AUTO ◄► MANU
S407
CH-2
AUTO ◄► MANU
1-663-144
11

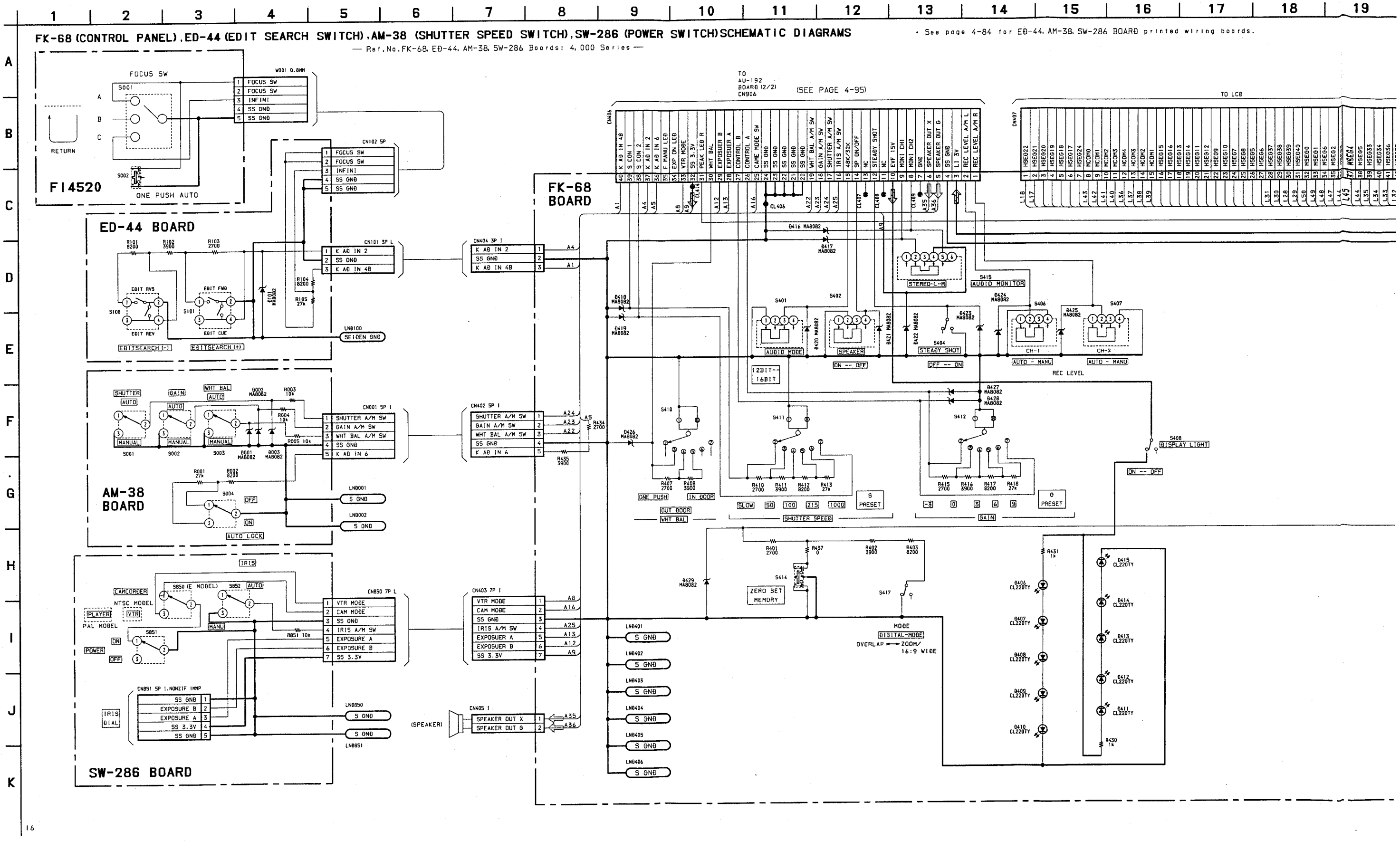
B)


D417
S408
DISPLAY LIGHT
D422
OFF ◄► ON
R431
D430
CN402
D428
R435
R434
CN403
LN0403
LN0405
R419
R436
R437
R401
CL414
CL406
CL407
CL408
CL409
CN406
CL405
CL404
CN408
CL402
CL401
CL403
CN410
CN404
S417
DIGITAL MODE
ZOOM/16:9WIDE ◄► OVERLAP
R403
R402
LN0401
S404
STEADY SHOT
ON ◄► OFF
R430
D423
CN407
D401
R405
R406
D402
(PEAK)
CN405
1-663-144
11
2
3
4
5
6
7
8
9
10
11
12
13

FK-68 (CONTROL PANEL), ED-44 (EDIT SEARCH SWITCH), AM-38 (SHUTTER SPEED SWITCH), SW-286 (POWER SWITCH) SCHEMATIC DIAGRAMS

— Ref.No.FK-68, ED-44, AM-38, SW-286 Boards; 4,000 Series —

• See page 4-84 for ED-44, AM-38, SW-286 BOARD printed wiring boards.

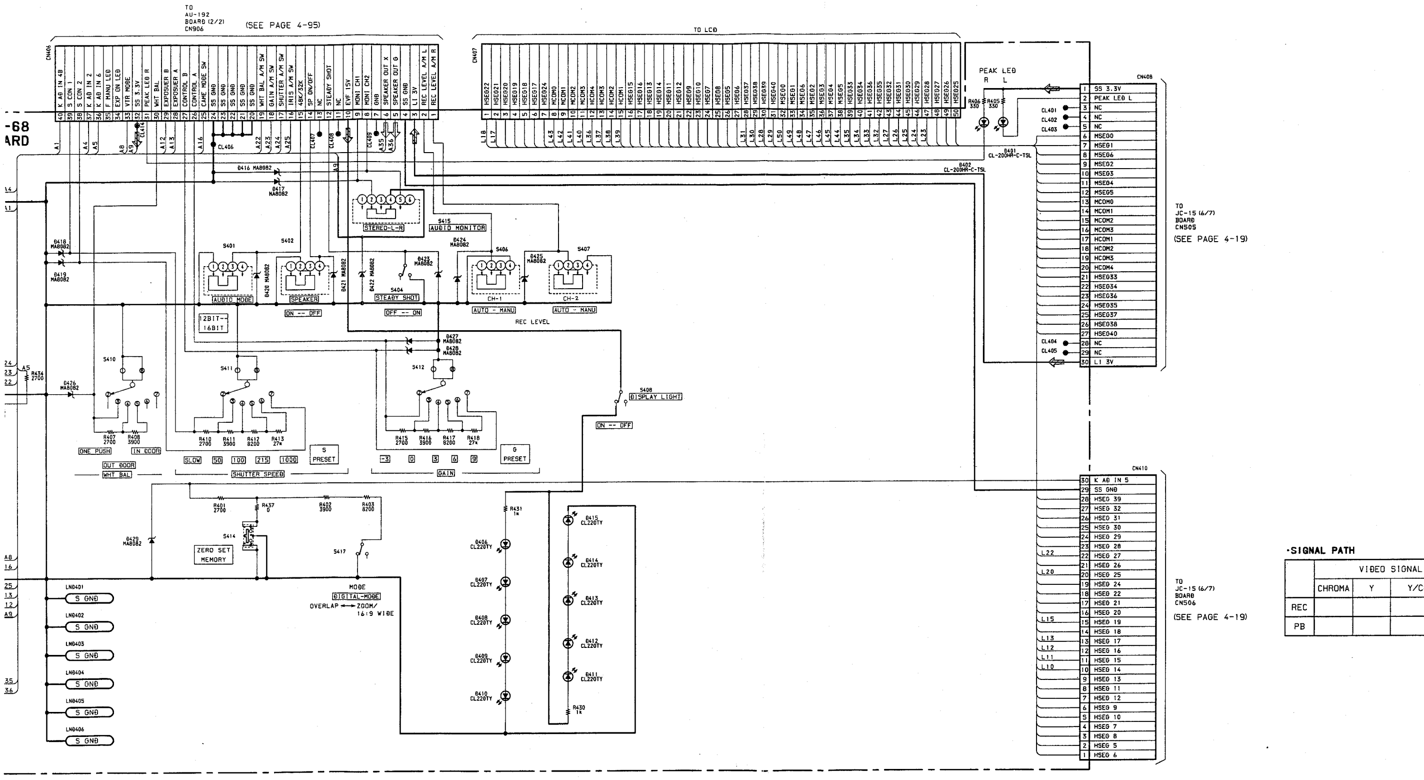

FOCUS SW
S001
RETURN
F14520
S002
ONE PUSH AUTO
W001 0.8MM
FOCUS SW
INFINI
SS GND
CN102 5P
ED-44 BOARD
EDIT RVS
EDIT FWD
EDIT REV
EDIT CUE
S100
S101
EDITSEARCH (-)
EDITSEARCH (+)
CN101 3P L
K AD IN 2
K AD IN 4B
LN0100
SEIDEN GND
AM-38 BOARD
SHUTTER
GAIN
WHT BAL
AUTO
MANUAL
CN001 5P L
SHUTTER A/M SW
GAIN A/M SW
WHT BAL A/M SW
K AD IN 6
S004
OFF
ON
AUTO LOCK
LN0001
S GND
LN0002
SW-286 BOARD
IRIS
CAMCORDER
NTSC MODEL
PAL MODEL
PLAYER
VTR
POWER
S850 (E MODEL)
S852
S851
MANU
CN850 7P L
VTR MODE
CAM MODE
IRIS A/M SW
EXPOSURE A
EXPOSURE B
SS 3.3V
CN851 5P L.NONZIF 1MMP
IRIS DIAL
LN8850
LN8851
FK-68 BOARD
CN404 3P L
CN402 5P L
CN403 7P L
CN405 1
(SPEAKER)
SPEAKER OUT X
SPEAKER OUT G
TO AU-192 BOARD (2/2) CN906
(SEE PAGE 4-95)
CN406
CN407
TO LCD
STEREO-L-R
AUDIO MONITOR
S401
S402
AUDIO MODE
12BIT--16BIT
SPEAKER
ON -- OFF
S404
STEADY SHOT
OFF -- ON
S406
S407
CH-1
CH-2
AUTO - MANU
REC LEVEL
S410
S411
S412
ONE PUSH
IN DOOR
OUT DOOR
WHT BAL
SLOW
50
100
215
1000
S PRESET
SHUTTER SPEED
-3
0
3
6
9
G PRESET
GAIN
S408
DISPLAY LIGHT
ON -- OFF
S414
ZERO SET MEMORY
S417
MODE
DIGITAL-MODE
OVERLAP ←→ ZOOM/16:9 WIDE
LN0401
LN0402
LN0403
LN0404
LN0405
LN0406
CL220TY
MA8082

| 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |

,SW-286 (POWER SWITCH)SCHEMATIC DIAGRAMS

• See page 4-84 for ED-44, AM-38, SW-286 BOARD printed wiring boards.

4, 000 Series —


TO AU-192 BOARD (2/2) CN906
(SEE PAGE 4-95)
TO LCD
CN406
CN407
CN408
CN410
-68
ARD
PEAK LED R L
TO JC-15 (6/7) BOARD CN505 (SEE PAGE 4-19)
TO JC-15 (6/7) BOARD CN506 (SEE PAGE 4-19)
S401
S402
S404
S406
S407
S408
S410
S411
S412
S414
S415
S417
AUDIO MODE
12BIT--16BIT
SPEAKER
ON -- OFF
STEREO-L-R
AUDIO MONITOR
STEADY SHOT
OFF -- ON
CH-1
CH-2
AUTO -- MANU
REC LEVEL
DISPLAY LIGHT
ON -- OFF
ONE PUSH
IN DOOR
OUT DOOR
WHT BAL
SLOW
50
100
215
1000
S PRESET
SHUTTER SPEED
-3
0
3
6
9
G PRESET
GAIN
ZERO SET MEMORY
MODE
DIGITAL-MODE
OVERLAP ←→ ZOOM/ 16:9 WIDE
S GND
LN0401
LN0402
LN0403
LN0404
LN0405
LN0406
SS 3.3V
PEAK LED L
NC
L1 3V
K AD IN 5
SS GND

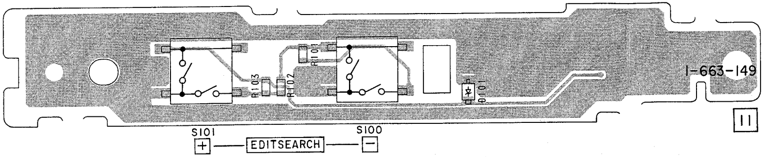
·SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC				
PB				⇨

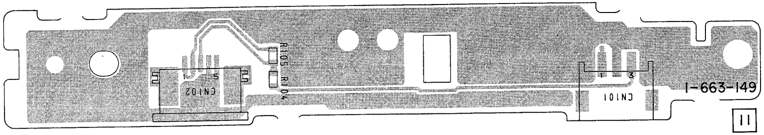
ED-44 (EDIT SEARCH SWITCH), AM-38 (SHUTTER SPEED SWITCH), SW-286 (POWER SWITCH) PRINTED WIRING BOARDS
— Ref. No. ED-44, AM-38, SW-286 Board; 4,000 Series —

There are few cases that the part printed on this diagram isn't mounted in this model.

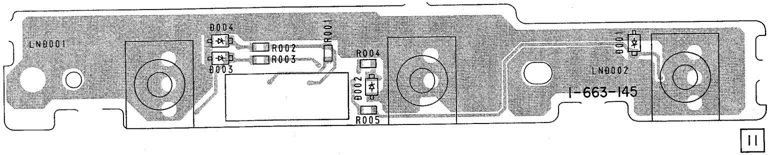
ED-44 BOARD (SIDE A)


R103
R102
R101
D101
1-663-149
11
S101
+
EDITSEARCH
S100
−

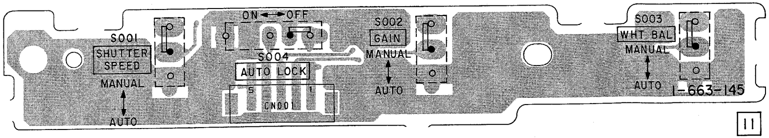
ED-44 BOARD (SIDE B)

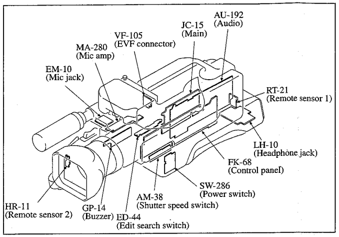

R105
R104
CN102
1
5
CN101
1
3
1-663-149
11

AM-38 BOARD (SIDE A)

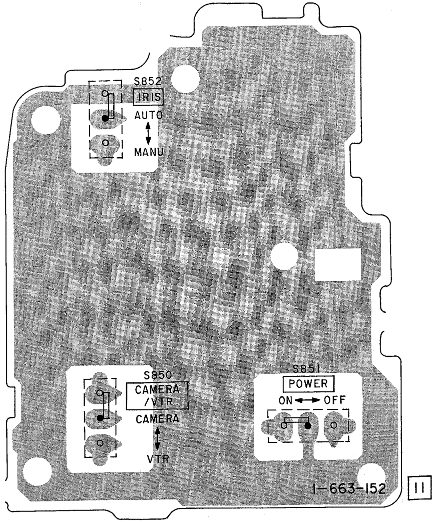

LND001
D004
D003
R002
R003
R001
R004
D002
R005
D001
LND002
1-663-145
11

AM-38 BOARD (SIDE B)


S001
SHUTTER SPEED
MANUAL
AUTO
ON ◄─► OFF
S004
AUTO LOCK
CN001
5
1
S002
GAIN
MANUAL
AUTO
S003
WHT BAL
MANUAL
AUTO
1-663-145
11

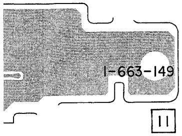

AU-192 (Audio)
JC-15 (Main)
VF-105 (EVF connector)
MA-280 (Mic amp)
EM-10 (Mic jack)
RT-21 (Remote sensor 1)
LH-10 (Headphone jack)
FK-68 (Control panel)
SW-286 (Power switch)
AM-38 (Shutter speed switch)
HR-11 (Remote sensor 2)
GP-14 (Buzzer)
ED-44 (Edit search switch)

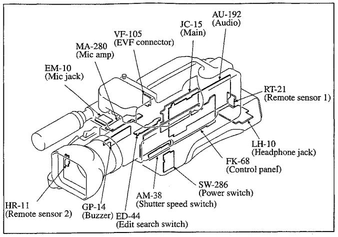
SW-286 BOARD (SIDE A)

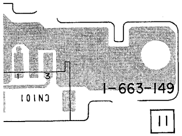

S852
IRIS
AUTO
MANU
S850
CAMERA /VTR
CAMERA
VTR
S851
POWER
ON ◄─► OFF
1-663-152
11

BOARDS

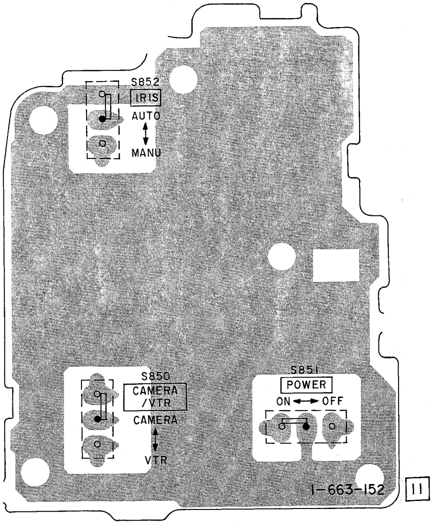
There are few cases that the part printed on this diagram isn't mounted in this model.



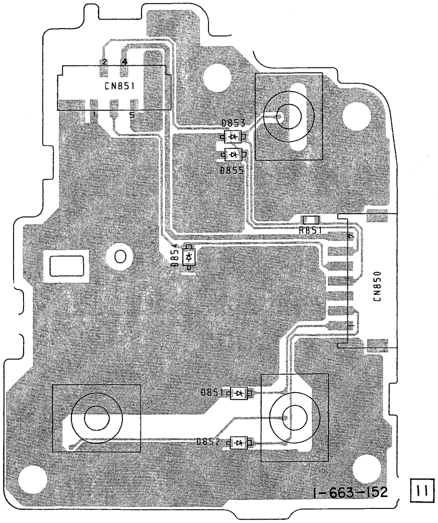

AU-192
(Audio)
JC-15
(Main)
VF-105
(EVF connector)
MA-280
(Mic amp)
EM-10
(Mic jack)
RT-21
(Remote sensor 1)
LH-10
(Headphone jack)
FK-68
(Control panel)
SW-286
(Power switch)
AM-38
(Shutter speed switch)
HR-11
(Remote sensor 2)
GP-14
(Buzzer)
ED-44
(Edit search switch)

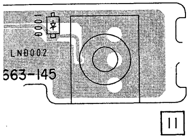

1
3
CN101
1-663-149
11

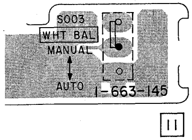
SW-286 BOARD (SIDE A)


S852
IRIS
AUTO
MANU
S850
CAMERA
/VTR
CAMERA
VTR
S851
POWER
ON
OFF
1-663-152
11

SW-286 BOARD (SIDE B)


2
4
CN851
1
5
D853
D855
R851
D854
CN850
D851
D852
1-663-152
11

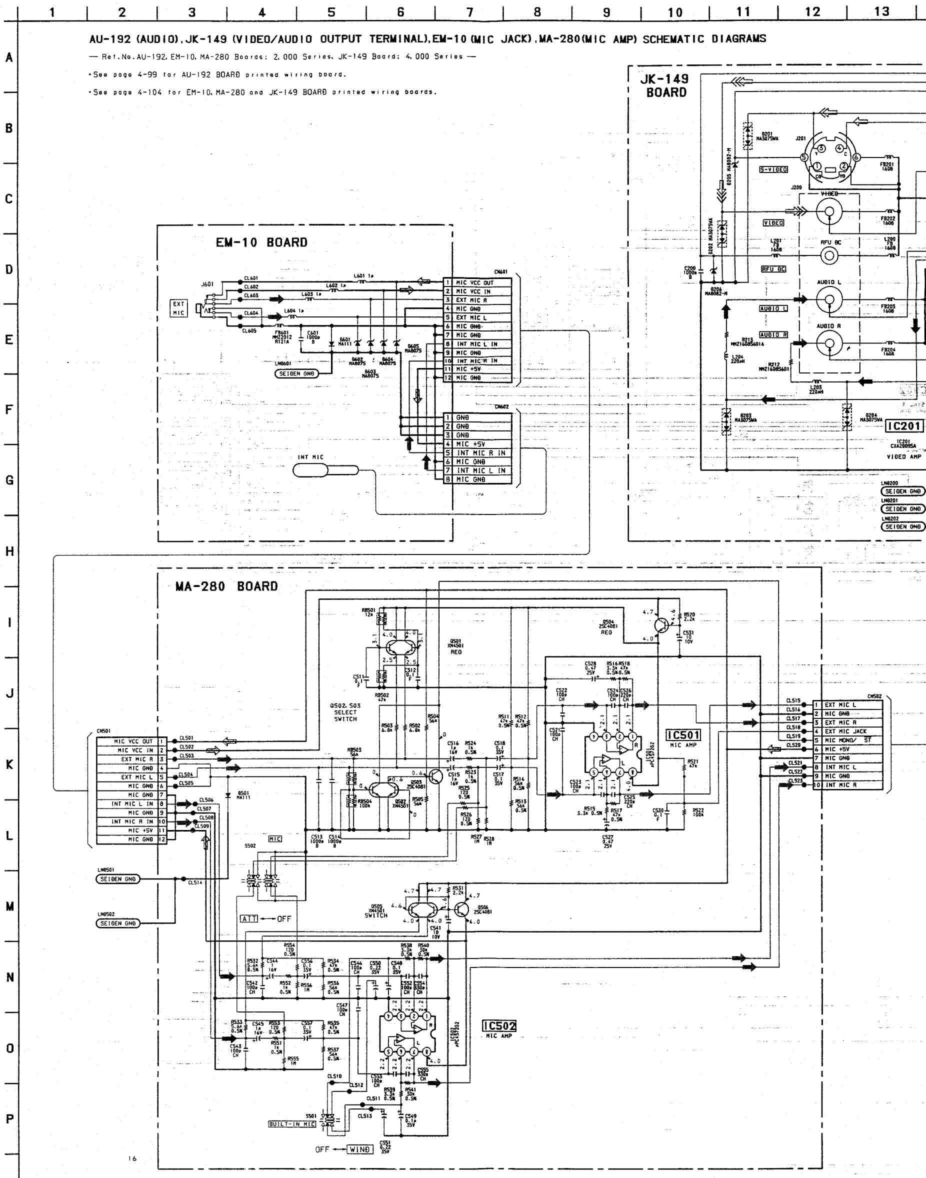

D001
LND002
663-145
11


S003
WHT BAL
MANUAL
AUTO
1-663-145
11

AU-192 (AUDIO), JK-149 (VIDEO/AUDIO OUTPUT TERMINAL), EM-10 (MIC JACK), MA-280 (MIC AMP) SCHEMATIC DIAGRAMS

— Ref. No. AU-192, EM-10, MA-280 Boards: 2,000 Series, JK-149 Board: 4,000 Series —

- See page 4-99 for AU-192 BOARD printed wiring board.
- See page 4-104 for EM-10, MA-280 and JK-149 BOARD printed wiring boards.

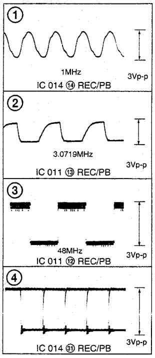


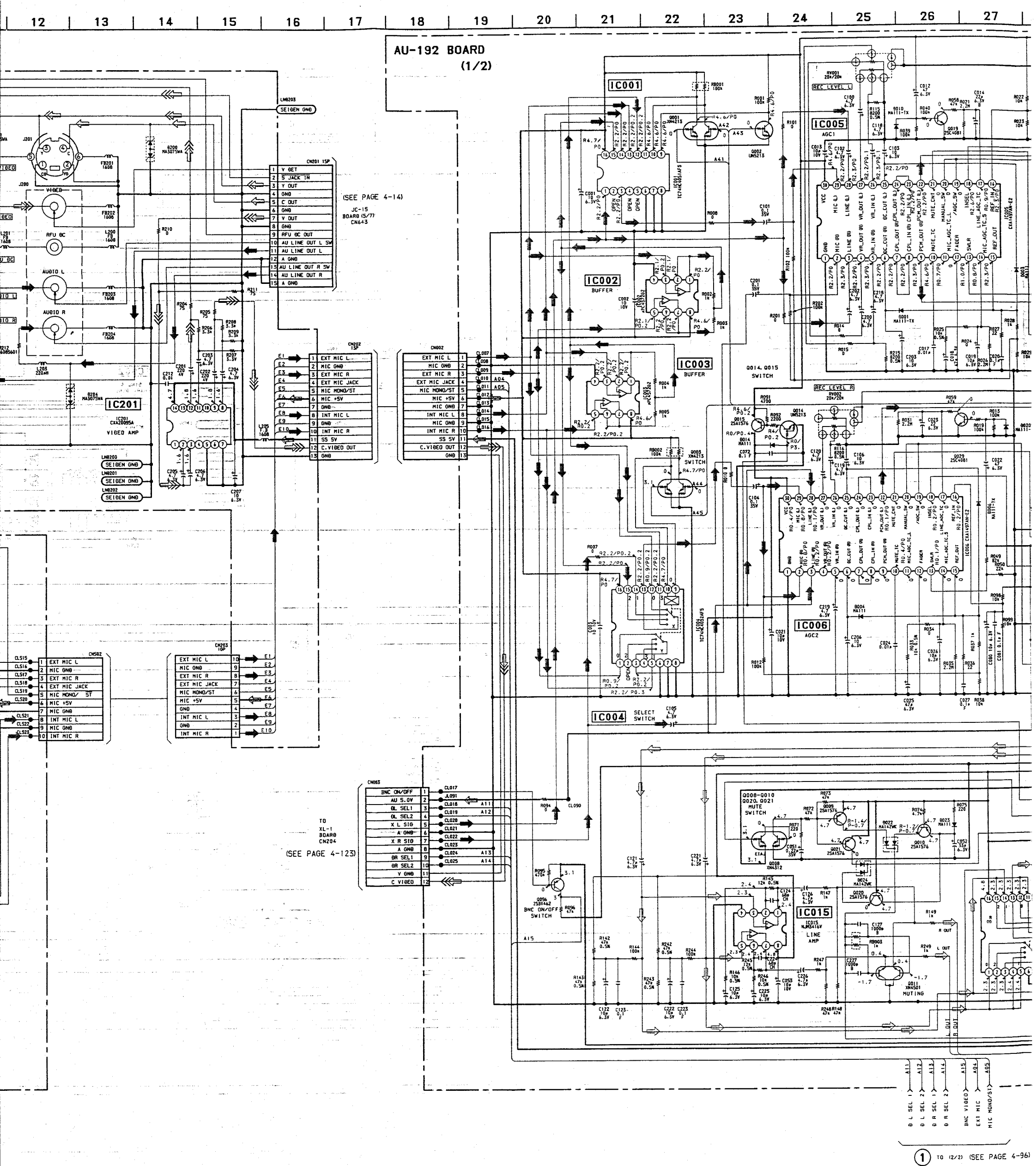
1
2
3
4
5
6
7
8
9
10
11
12
13
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
JK-149 BOARD
S-VIDEO
VIDEO
RFU DC
AUDIO L
AUDIO R
J201
J200
IC201
IC201 CXA2009SA
VIDEO AMP
LND200 SEIDEN GND
LND201 SEIDEN GND
LND202 SEIDEN GND
EM-10 BOARD
J601
EXT MIC
INT MIC
LND601 SEIDEN GND
CN601
MIC VCC OUT
MIC VCC IN
EXT MIC R
MIC GND
EXT MIC L
INT MIC L IN
INT MIC R IN
MIC +5V
CN602
GND
MA-280 BOARD
CN501
Q501 XN4501 REG
Q504 2SC4081 REG
Q502, 503 SELECT SWITCH
Q505 XN4501 SWITCH
Q506 2SC4081
IC501
MIC AMP
IC502
MIC AMP
S502
MIC
ATT
OFF
S501
BUILT-IN MIC
WIND
LND501 SEIDEN GND
LND502 SEIDEN GND
CN502
EXT MIC L
MIC GND
EXT MIC R
EXT MIC JACK
MIC MONO/ST
MIC +5V
INT MIC L
INT MIC R
16

·SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC				➡
PB	⇨	⇨»	⇨⋙	⇨

AU-192 BOARD

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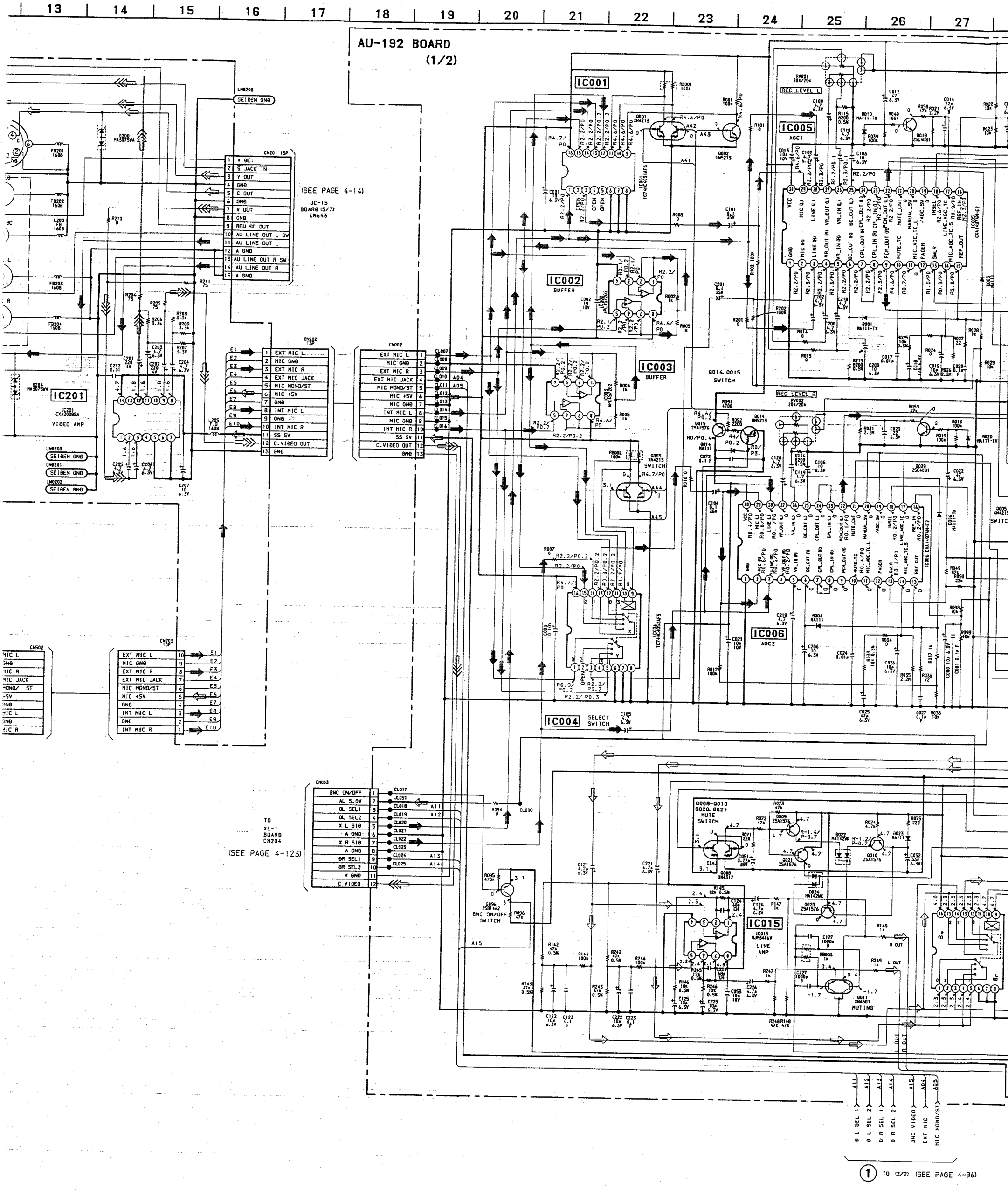
27
AU-192 BOARD
(1/2)
IC001
IC002
BUFFER
IC003
BUFFER
IC004
SELECT SWITCH
IC005
AGC1
IC006
AGC2
IC015
LINE AMP
IC201
CXA2009SA
VIDEO AMP
Q014, Q015
SWITCH
Q003
SWITCH
Q008-Q010
Q020, Q021
MUTE SWITCH
Q011
MUTING
Q096
BNC ON/OFF SWITCH
REC LEVEL L
REC LEVEL R
CN201 15P
V DET
S JACK IN
Y OUT
GND
C OUT
GND
V OUT
GND
RFU DC OUT
AU LINE OUT L SW
AU LINE OUT L
A GND
AU LINE OUT R SW
AU LINE OUT R
A GND
(SEE PAGE 4-14)
JC-15
BOARD (5/7)
CN643
CN202 13P
CN002
EXT MIC L
MIC GND
EXT MIC R
EXT MIC JACK
MIC MONO/ST
MIC +5V
GND
INT MIC L
MIC GND
INT MIC R
SS 5V
C.VIDEO OUT
GND
CN502
CN203 10P
CN003
BNC ON/OFF
AU 5.0V
DL SEL1
DL SEL2
X L SIG
A GND
X R SIG
A GND
DR SEL1
DR SEL2
V GND
C VIDEO
TO
XL-1
BOARD
CN204
(SEE PAGE 4-123)
VIDEO
RFU DC
AUDIO L
AUDIO R
J201
J200
LN0203
SEIGEN GND
LN0200
SEIGEN GND
LN0201
SEIGEN GND
LN0202
SEIGEN GND
A11
A12
A13
A14
A15
A04
A05
D L SEL 1
D L SEL 2
D R SEL 1
D R SEL 2
BNC VIDEO
EXT MIC
MIC MONO/ST
① TO (2/2) (SEE PAGE 4-96)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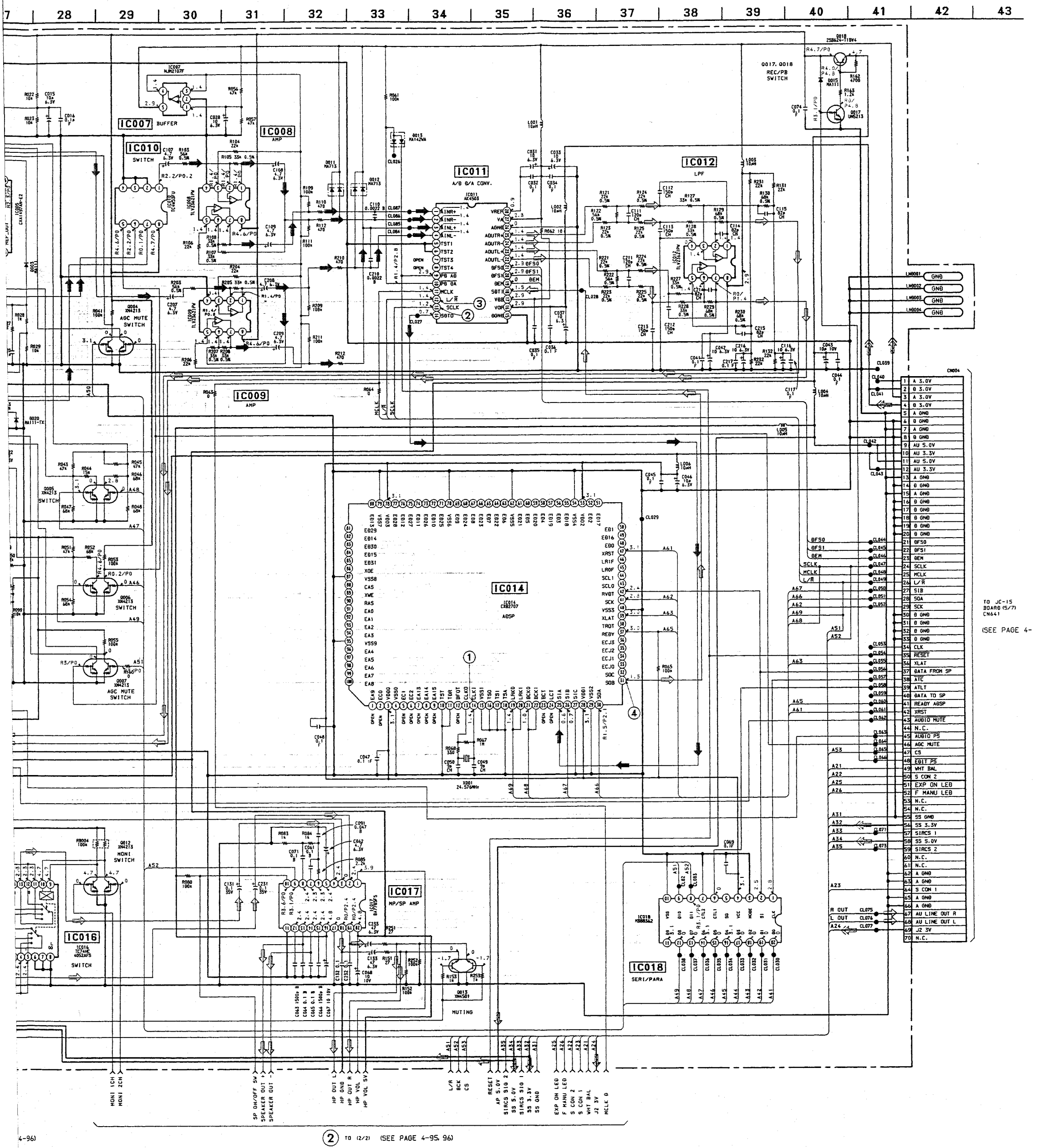
24
25
26
27
AU-192 BOARD
(1/2)
IC001
IC002
BUFFER
IC003
BUFFER
IC004
SELECT SWITCH
IC005
AGC1
IC006
AGC2
IC015
LINE AMP
IC201
IC201 CXA2009SA
VIDEO AMP
REC LEVEL L
REC LEVEL R
Q014, Q015 SWITCH
Q003 XN4213 SWITCH
Q008-Q010 Q020, Q021 MUTE SWITCH
Q011 XN4501 MUTING
Q096 2SB1462 BNC ON/OFF SWITCH
CN201 15P
V DET
S JACK IN
Y OUT
GND
C OUT
GND
V OUT
GND
RFU DC OUT
AU LINE OUT L SW
AU LINE OUT L
A GND
AU LINE OUT R SW
AU LINE OUT R
A GND
(SEE PAGE 4-14)
JC-15 BOARD (5/7) CN643
LN0203 SEIDEN GND
LN0200 SEIDEN GND
LN0201 SEIDEN GND
LN0202 SEIDEN GND
CN202 13P
CN002
EXT MIC L
MIC GND
EXT MIC R
EXT MIC JACK
MIC MONO/ST
MIC +5V
GND
INT MIC L
GND
INT MIC R
SS 5V
C.VIDEO OUT
GND
CN203 10P
CN502
CN003
BNC ON/OFF
AU 5.0V
DL SEL1
DL SEL2
X L SIG
A GND
X R SIG
A GND
DR SEL1
DR SEL2
V GND
C VIDEO
TO XL-1 BOARD CN204
(SEE PAGE 4-123)
D L SEL 1
D L SEL 2
D R SEL 1
D R SEL 2
BNC VIDEO
EXT MIC
MIC MONO/ST
A11
A12
A13
A14
A15
A04
A05
L OUT
R OUT
① TO (2/2) (SEE PAGE 4-96)


7
28
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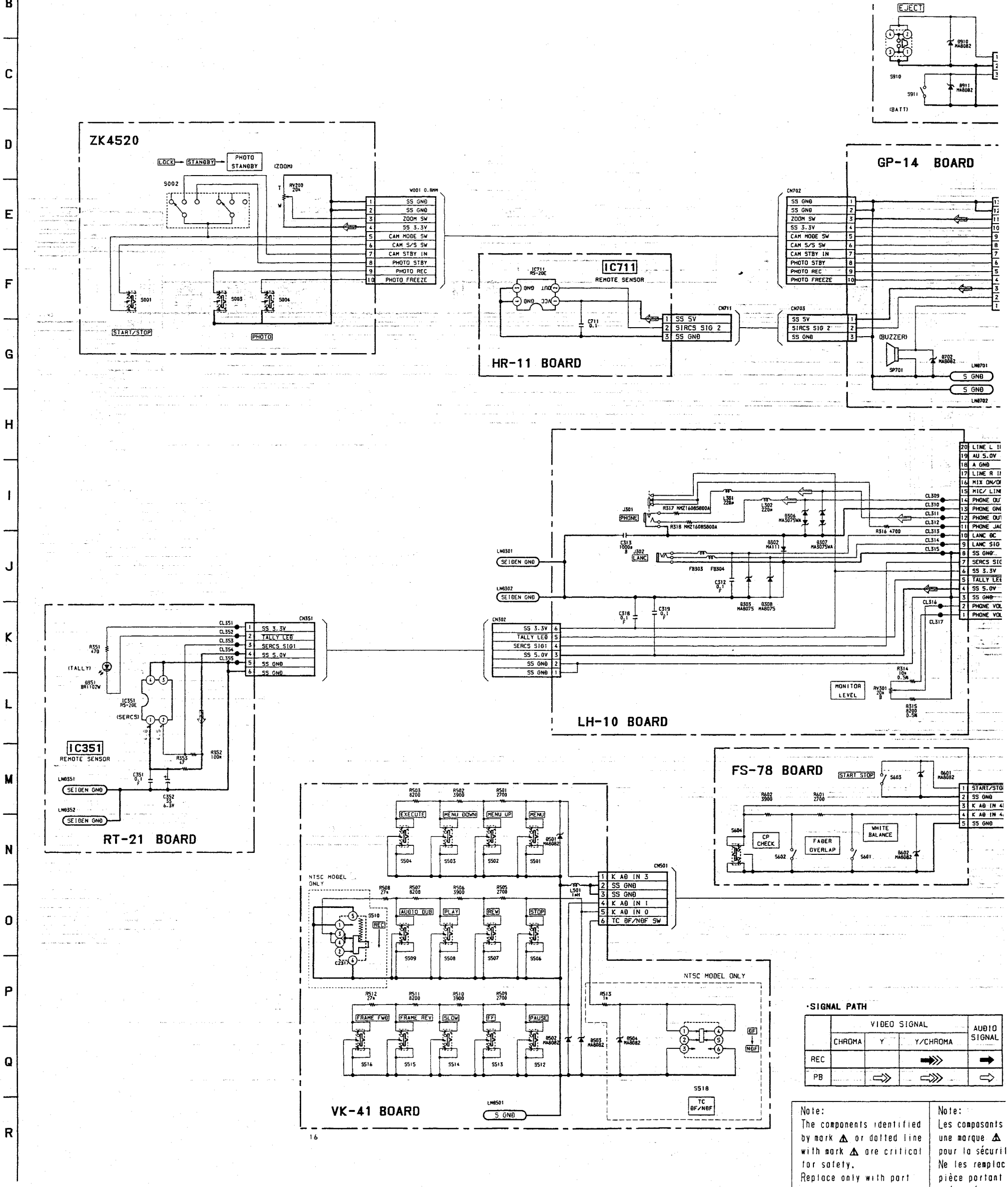
41
42
43
IC007 BUFFER
IC007 NJM2107F
IC008 AMP
IC010 SWITCH
IC009 AMP
IC011 A/D D/A CONV.
IC011 AK4503
IC012 LPF
IC014 ADSP
IC014 CXD2707
IC016 SWITCH
IC016 TC74HC4052AFS
IC017 HP/SP AMP
IC018 SERI/PARA
IC018 MB88342
Q004 XN4213 AGC MUTE SWITCH
Q005 XN4213 SWITCH
Q006 XN4213 SWITCH
Q007 XN4213 AGC MUTE SWITCH
Q012 XN4213 MONI SWITCH
Q013 XN4501 MUTING
Q017, Q018 REC/PB SWITCH
Q017 UN5213
Q018 2SB624-T1BV4
X001 24.576MHz
LN0001 GND
LN0002 GND
LN0003 GND
LN0004 GND
CN004
1 A 3.0V
2 D 3.0V
3 A 3.0V
4 D 3.0V
5 A GND
6 D GND
7 A GND
8 D GND
9 AU 5.0V
10 AU 3.3V
11 AU 5.0V
12 AU 3.3V
13 A GND
14 D GND
15 A GND
16 D GND
17 D GND
18 D GND
19 D GND
20 D GND
21 DFS0
22 DFS1
23 DEM
24 SCLK
25 MCLK
26 L/R
27 SIB
28 SOA
29 SCK
30 D GND
31 D GND
32 D GND
33 D GND
34 CLK
35 RESET
36 XLAT
37 DATA FROM SP
38 ATC
39 ATLT
40 DATA TO SP
41 READY ADSP
42 XRST
43 AUDIO MUTE
44 N.C.
45 AUDIO PS
46 AGC MUTE
47 CS
48 EDIT PS
49 WHT BAL
50 S CON 2
51 EXP ON LED
52 F MANU LED
53 N.C.
54 N.C.
55 SS GND
56 SS 3.3V
57 SIRCS 1
58 SS 5.0V
59 SIRCS 2
60 N.C.
61 N.C.
62 A GND
63 A GND
64 S CON 1
65 A GND
66 A GND
67 AU LINE OUT R
68 AU LINE OUT L
69 J2 3V
70 N.C.
TO JC-15 BOARD (5/7) CN641
(SEE PAGE 4-
MONI 1CH
MONI 2CH
SP ON/OFF SW
SPEAKER OUT +
SPEAKER OUT -
HP OUT L
HP GND
HP OUT R
HP VOL
HP VOL 5V
L/R
BCK
CS
RESET
AP 5.0V
SIRCS SIG 2
SS 5.0V
SIRCS SIG 1
SS 3.3V
SS GND
EXP ON LED
F MANU LED
S CON 2
S CON 1
WHT BAL
J2 3V
MCLK D
② TO (2/2) (SEE PAGE 4-95, 96)
(4-96)

AU-192 (AUDIO SELECT), EJ-27 (EJECT SWITCH), GP-14 (BUZZER), HR-11 (REMOTE SENSOR 2), LH-10 (HEADPHONE JACK), RT-21 (REMOTE SENSOR 1), VK-41 (PLAYER SWITCH), FS-78 (START/STOP SWITCH), LI-60 (LITHIUM BATTERY), VF-105 (EVF CONNECTOR) SCHEMATIC DIAGRAMS

— Ref.No. AU-192 Board: 2,000 Series, EJ-27, VK-41, HR-11 Boards, 4,000 Series, GP-14, LH-10, RT-21, FS-78, LI-60 Boards: 5,000 Series, VF-105 Board: 1,000 Series —

- See page 4-99 for AU-192 BOARD printed wiring board.
- See page 4-113 for EJ-27, GP-14, HR-11, LH-10, RT-21, VK-41 and FS-78 BOARD printed wiring boards.



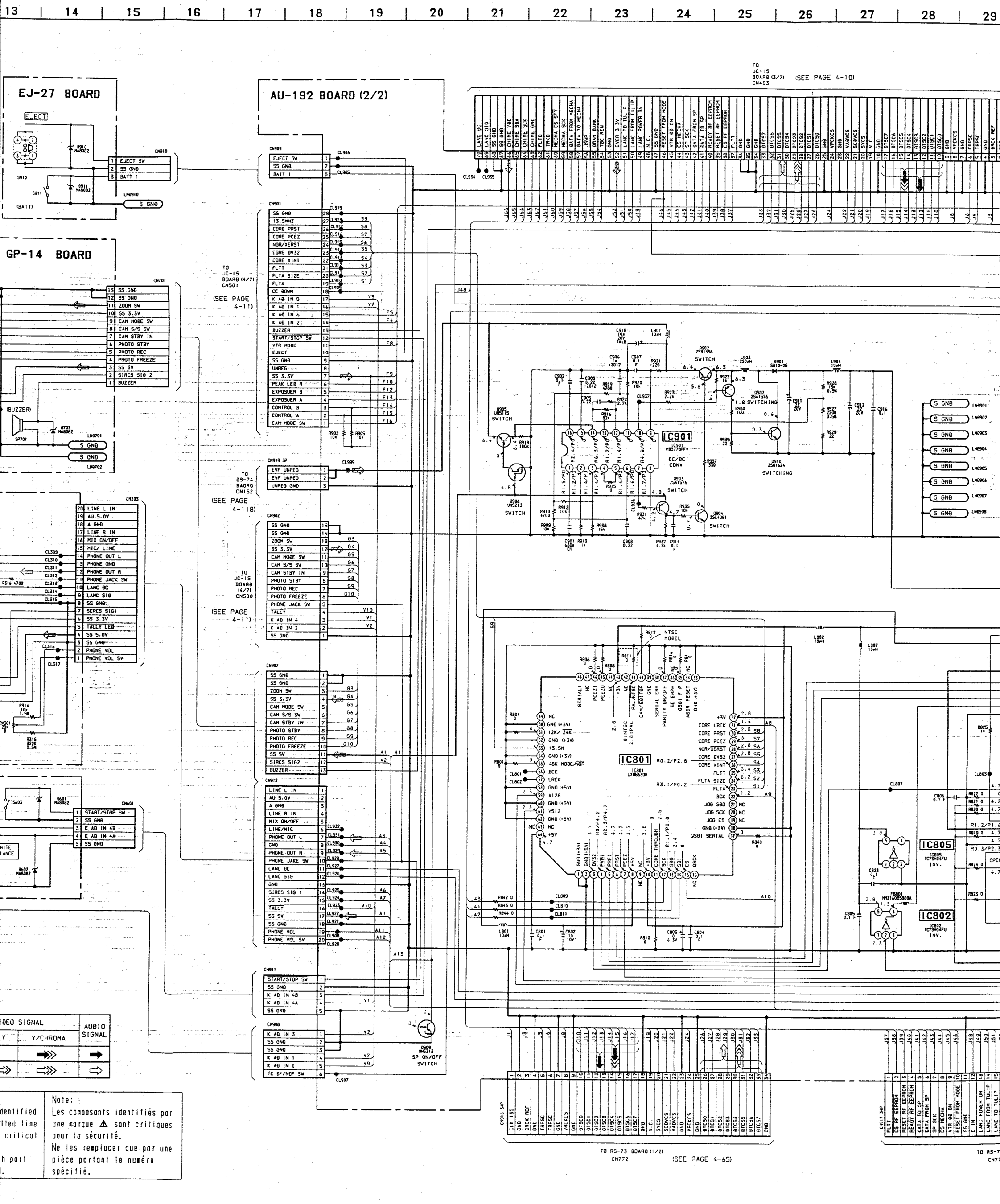
1 2 3 4 5 6 7 8 9 10 11 12 13 14
A B C D E F G H I J K L M N O P Q R
EJ-27 BOARD
EJECT
D910 MA8082
D911 MA8082
S910
S911
(BATT)
ZK4520
LOCK
STANDBY
PHOTO STANDBY
(ZOOM)
S002
RV200 20k
T
W
W001 0.8MM
SS GND
SS GND
ZOOM SW
SS 3.3V
CAM MODE SW
CAM S/S SW
CAM STBY IN
PHOTO STBY
PHOTO REC
PHOTO FREEZE
S001
S003
S004
START/STOP
PHOTO
GP-14 BOARD
CN702
CN703
(BUZZER)
SP701
D702 MA8082
LN8701
LN8702
S GND
IC711
REMOTE SENSOR
IC711 RS-20E
GND
OUT
VCC
C711 0.1
CN711
SS 5V
SIRCS SIG 2
SS GND
HR-11 BOARD
LINE L IN
AU 5.0V
A GND
LINE R IN
MIX ON/OFF
MIC/LINE
PHONE OUT
PHONE GND
PHONE JACK
LANC DC
LANC SIG
SS GND
SERCS SIG
SS 3.3V
TALLY LED
SS 5.0V
PHONE VOL
J301
PHONE
R317 MHZ1608S800A
R318 MHZ1608S800A
L301 22µ
L302 22µ
D306 MA3075WA
D307 MA3075WA
D302 MA111
R316 4700
C313 1000µ
J302
LANC
FB303
FB304
C312 0.1
D303 MA8075
D308 MA8075
C318 0.1
C319 0.1
CL309
CL310
CL311
CL312
CL313
CL314
CL315
CL316
CL317
LN0301
LN0302
SEIDEN GND
CN302
MONITOR LEVEL
RV301 20k B
R314 10k 0.5W
R315 8200 0.5W
LH-10 BOARD
CN351
CL351
CL352
CL353
CL354
CL355
SS 3.3V
TALLY LED
SERCS SIG1
SS 5.0V
SS GND
R351 470
(TALLY)
D351 BR1102W
IC351 RS-20E
(SERCS)
IC351
REMOTE SENSOR
R352 100k
R353 47
C351 0.1
C352 33 6.3V
LN0351
LN0352
SEIDEN GND
RT-21 BOARD
FS-78 BOARD
START STOP
S603
D601 MA8082
R602 3900
R601 2700
S604
CP CHECK
S602
FADER OVERLAP
WHITE BALANCE
S601
D602 MA8082
START/STOP
SS GND
K AD IN 4
SS GND
EXECUTE
MENU DOWN
MENU UP
MENU
R503 8200
R502 3900
R501 2700
S504
S503
S502
S501
D501 MA8082
NTSC MODEL ONLY
S510
REC
C2317
R508 27k
R507 8200
R506 3900
R505 2700
AUDIO DUB
PLAY
REW
STOP
S509
S508
S507
S506
L501 1mH
CN501
K AD IN 3
SS GND
SS GND
K AD IN 1
K AD IN 0
TC BF/NBF SW
FRAME FWD
FRAME REV
SLOW
FF
PAUSE
R512 27k
R511 8200
R510 3900
R509 2700
S516
S515
S514
S513
S512
D502 MA8082
D503 MA8082
D504 MA8082
R513 1k
BF
NBF
S518
TC BF/NBF
LN8501
S GND
VK-41 BOARD
16

·SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC			➡》	➡
PB		⇨》	⇨》》	⇨

Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Note:
Les composants
une marque ⚠
pour la sécuri
Ne les remplac
pièce portant
spécifié.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28
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EJ-27 BOARD
EJECT
AU-192 BOARD (2/2)
GP-14 BOARD
TO JC-15 BOARD (3/7) CN403 (SEE PAGE 4-10)
TO JC-15 BOARD (4/7) CN501 (SEE PAGE 4-11)
TO DS-74 BOARD (1/7) CN152 (SEE PAGE 4-118)
TO JC-15 BOARD (4/7) CN500 (SEE PAGE 4-11)
IC901
MB3778PFV
DC/DC CONV
IC801
CXD8630R
NTSC MODEL
IC805
TC7SH04FU INV.
IC802
TC7SH04FU INV.
SWITCH
SWITCHING
SP ON/OFF SWITCH
(BUZZER)
(BATT)
TO RS-73 BOARD (1/2) CN772 (SEE PAGE 4-65)
TO RS-7
CN77

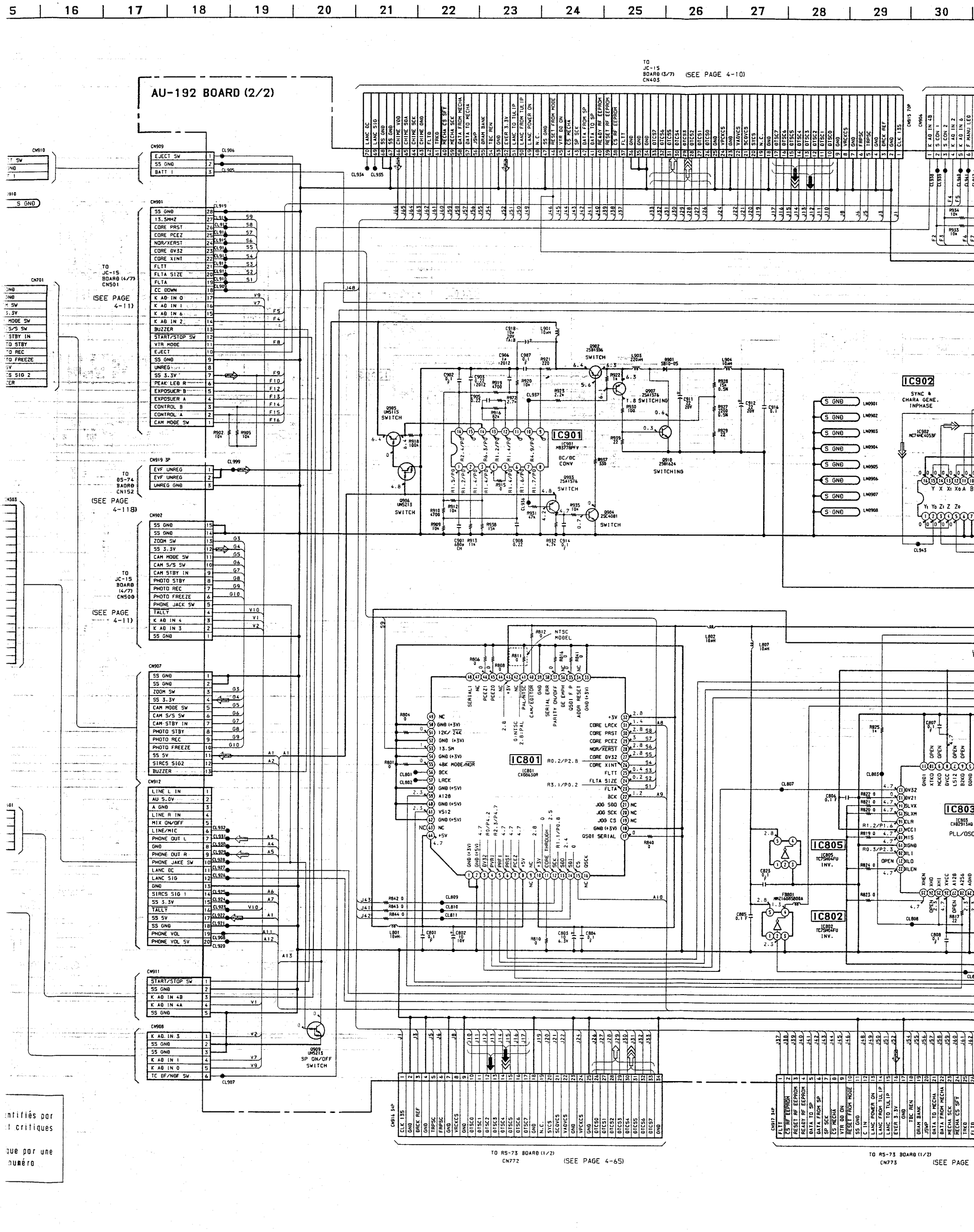
IDEO SIGNAL		AUDIO SIGNAL
Y	Y/CHROMA	
	➡》	➡
⇨》	⇨》	⇨

dentified
tted line
critical

h part
.

Note:
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

START/STOP SWITCH
FS-78
/
LITHIUM BATTERY
LI-60
/
EVF CONNECTOR
VF-105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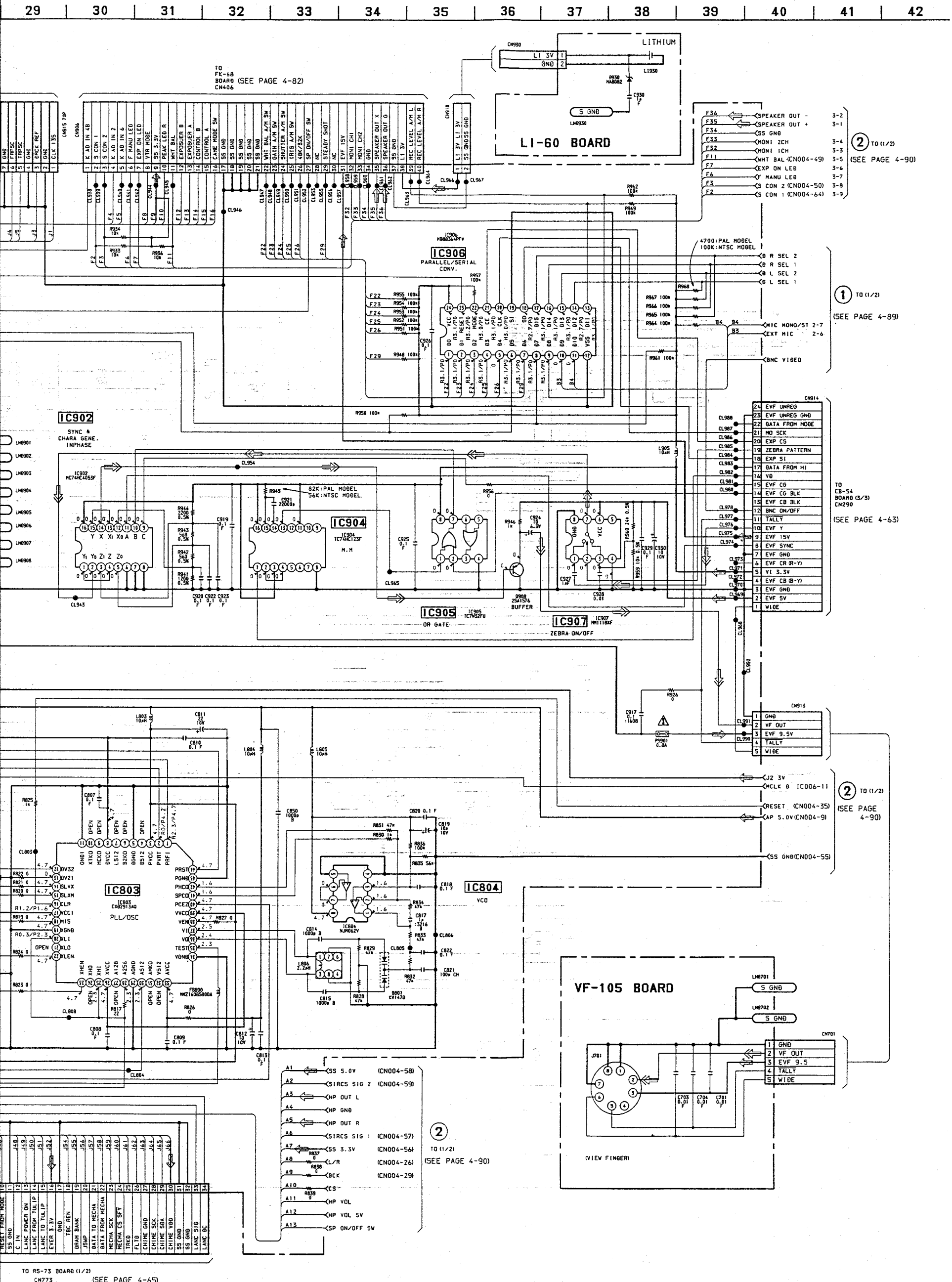
30
AU-192 BOARD (2/2)
TO JC-15 BOARD (3/7) CN403 (SEE PAGE 4-10)
CN909
CN901
CN919 3P
CN902
CN907
CN912
CN911
CN908
CN910
CN701
TO JC-15 BOARD (4/7) CN501 (SEE PAGE 4-11)
TO BS-74 BOARD (4/7) CN152 (SEE PAGE 4-118)
TO JC-15 BOARD (4/7) CN500 (SEE PAGE 4-11)
IC901
IC901 MB3778PFV
DC/DC CONV
Q902 2SB1396 SWITCH
Q907 2SA1576 SWITCHING
Q905 UN5115 SWITCH
Q906 UN5215 SWITCH
Q903 2SA1576 SWITCH
Q904 2SC4081 SWITCH
Q910 2SB1624 SWITCHING
IC902
SYNC & CHARA GENE. INPHASE
IC902 MC74HC4053F
IC801
IC801 CXD8630R
NTSC MODEL
IC805
IC805 TC7S04FU INV.
IC802
IC802 TC7S04FU INV.
IC803
IC803 CXD2913AQ
PLL/OSC
Q909 UN5213 SP ON/OFF SWITCH
CN916 34P
CN917 34P
TO RS-73 BOARD (1/2) CN772 (SEE PAGE 4-65)
TO RS-73 BOARD (1/2) CN773 (SEE PAGE

ntifiés par
: critiques

que par une
numéro

LITHIUM BATTERY
LI-60

EVF CONNECTOR
VF-105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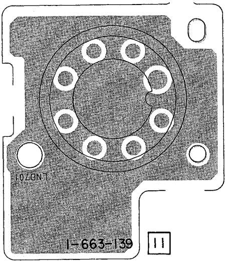
41
42
LITHIUM
CN950
LI 3V
GND
LI-60 BOARD
S GND
TO FK-68 BOARD (SEE PAGE 4-82) CN406
CN915 7P
CN906
IC906
PARALLEL/SERIAL CONV.
IC902
SYNC & CHARA GENE. INPHASE
IC904
IC905
OR GATE
IC907
ZEBRA ON/OFF
Q908 BUFFER
4700:PAL MODEL 100K:NTSC MODEL
82K:PAL MODEL 56K:NTSC MODEL
SPEAKER OUT -
SPEAKER OUT +
SS GND
MONI 2CH
MONI 1CH
WHT BAL (CN004-49)
EXP ON LED
F MANU LED
S CON 2 (CN004-50)
S CON 1 (CN004-64)
② TO (1/2) (SEE PAGE 4-90)
B R SEL 2
B R SEL 1
B L SEL 2
B L SEL 1
MIC MONO/ST 2-7
EXT MIC 2-6
BNC VIDEO
① TO (1/2) (SEE PAGE 4-89)
CN914
EVF UNREG
EVF UNREG GND
DATA FROM MODE
MD SCK
EXP CS
ZEBRA PATTERN
EXP SI
DATA FROM HI
VD
EVF CG
EVF CG BLK
EVF CB BLK
BNC ON/OFF
TALLY
EVF Y
EVF 15V
EVF SYNC
EVF GND
EVF CR (R-Y)
VI 3.3V
EVF CB (B-Y)
EVF GND
EVF 5V
WIDE
TO CB-54 BOARD (3/3) CN290 (SEE PAGE 4-63)
CN913
GND
VF OUT
EVF 9.5V
TALLY
WIDE
PS901 0.8A
J2 3V
MCLK 8 IC006-11
RESET (CN004-35)
AP 5.0V (CN004-9)
SS GND (CN004-55)
② TO (1/2) (SEE PAGE 4-90)
IC803
PLL/OSC
IC804
VCO
VF-105 BOARD
S GND
CN701
GND
VF OUT
EVF 9.5
TALLY
WIDE
J701
(VIEW FINDER)
SS 5.0V (CN004-58)
SIRCS SIG 2 (CN004-59)
HP OUT L
HP GND
HP OUT R
SIRCS SIG 1 (CN004-57)
SS 3.3V (CN004-56)
L/R (CN004-26)
BCK (CN004-29)
CS
HP VOL
HP VOL 5V
SP ON/OFF SW
② TO (1/2) (SEE PAGE 4-90)
TO RS-73 BOARD (1/2) CN773 (SEE PAGE 4-65)

There are few cases that the part printed on this diagram isn't mounted in this model.

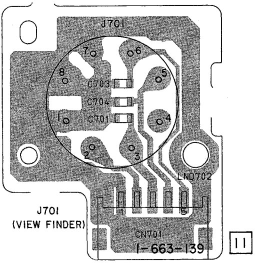
VF-105 (EVF CONNECTOR), LI-60 (LITHIUM BATTERY) PRINTED WIRING BOARDS

— Ref. No. VF-105 Board; 1,000 Series, LI-60 Board; 5,000 Series —

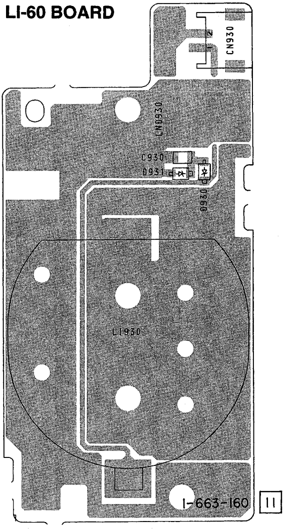
VF-105 BOARD (SIDE A)

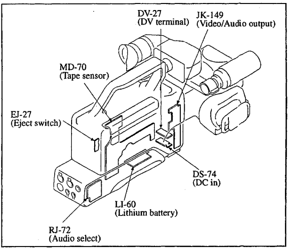

CN0701
1-663-139
11

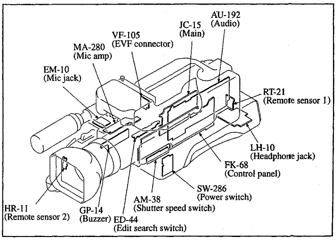
VF-105 BOARD (SIDE B)


J701
1
2
3
4
5
6
7
8
C703
C704
C701
CN0702
J701
(VIEW FINDER)
1
5
CN701
1-663-139
11

LI-60 BOARD


CN930
2
1
CN0930
C930
D931
D930
LI930
1-663-160
11


DV-27
(DV terminal)
JK-149
(Video/Audio output)
MD-70
(Tape sensor)
EJ-27
(Eject switch)
DS-74
(DC in)
LI-60
(Lithium battery)
RJ-72
(Audio select)


AU-192
(Audio)
JC-15
(Main)
VF-105
(EVF connector)
MA-280
(Mic amp)
EM-10
(Mic jack)
RT-21
(Remote sensor 1)
LH-10
(Headphone jack)
FK-68
(Control panel)
SW-286
(Power switch)
AM-38
(Shutter speed switch)
HR-11
(Remote sensor 2)
GP-14
(Buzzer)
ED-44
(Edit search switch)

DSR-200/200P

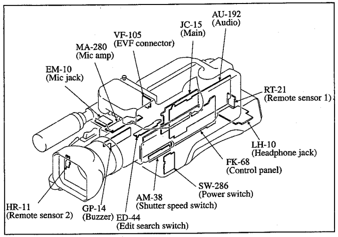
AU-192 BOARD

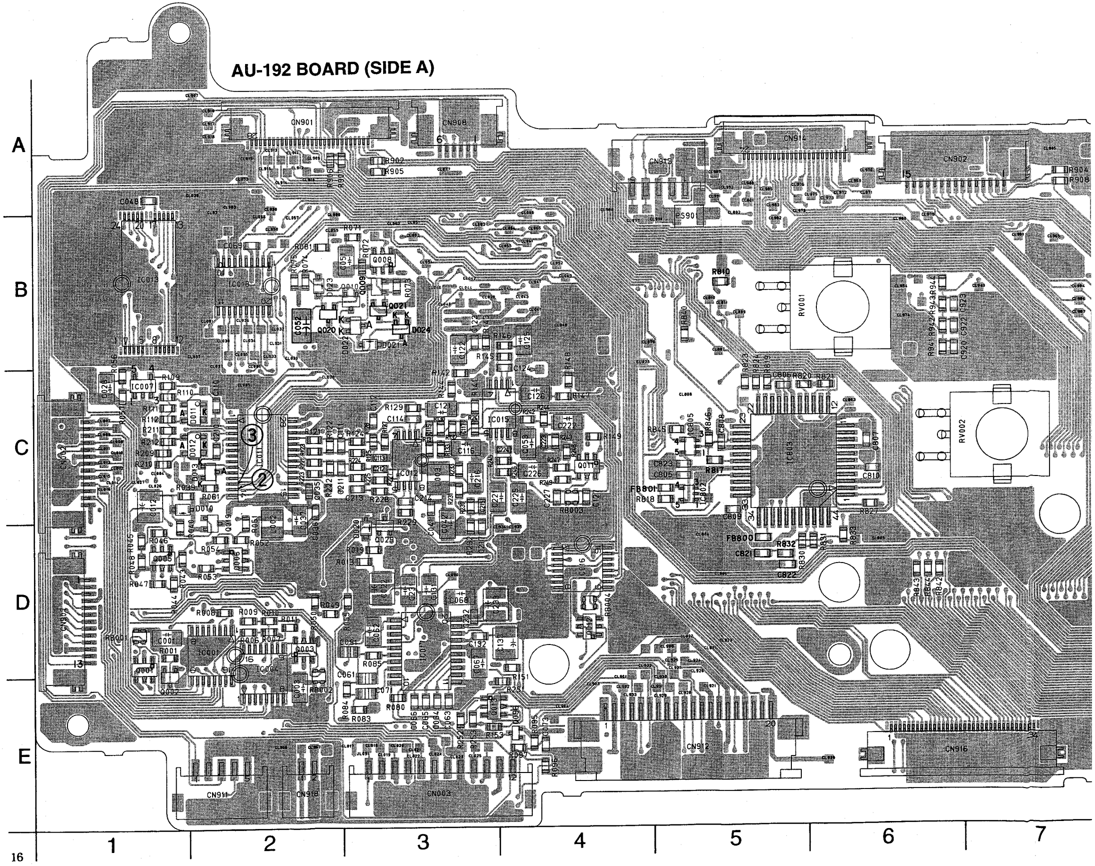
C001	D-1
C002	E-17
C003	E-2
C012	C-1
C013	D-17
C014	D-17
C015	C-17
C016	C-17
C017	D-18
C018	D-18
C019	D-18
C020	C-18
C021	D-16
C022	D-3
C023	D-16
C024	D-16
C025	D-17
C026	D-16
C027	C-17
C028	C-1
C031	C-16
C032	C-16
C033	C-16
C034	C-16
C035	C-2
C036	C-2
C037	C-2
C041	C-3
C042	C-3
C043	B-16
C044	B-16
C045	B-16
C046	B-16
C047	A-18
C048	A-1
C049	A-17
C050	A-18
C051	B-3
C052	B-2
C053	C-4
C061	D-3
C062	D-3
C063	E-3
C064	E-3
C065	E-3
C066	E-3
C067	D-3
C068	D-3
C069	B-2
C071	E-3
C072	D-16
C074	B-16
C080	C-16
C081	C-16
C091	D-3
C100	B-14
C101	D-17
C102	D-17
C103	D-17
C104	D-16
C105	D-16
C106	D-16
C107	C-18
C108	C-18
C109	C-18
C110	C-2
C111	C-2
C112	C-3
C113	C-3
C114	C-3
C115	C-3
C116	C-3
C117	C-3
C118	D-17
C119	D-16
C120	C-16
C121	C-3
C122	B-3
C123	B-3
C124	C-4
C125	B-4
C126	C-4
C127	C-4
C131	D-3
C132	D-3
C133	D-3
C200	C-14
C201	D-18
C202	D-18
C203	D-18
C206	D-17
C207	C-17
C208	C-17
C209	C-17
C210	C-2
C211	C-2
C212	C-3
C213	C-3
C214	C-3
C215	C-3
C216	C-3
C217	D-3
C218	D-18
C219	D-16
C221	C-3
C222	C-4
C223	C-4
C224	C-4
C225	C-4
C226	C-4
C227	C-4
C231	D-3
C232	D-3
C233	D-3
C801	B-14
C802	B-14
C803	C-15
C804	B-15
C805	C-5
C806	C-5
C807	C-6
C808	C-5
C809	C-5
C810	C-6
C811	C-13
C812	C-14
C813	C-14
C814	C-14
C815	C-14
C817	D-13
C818	D-13
C819	C-13
C820	C-13
C821	D-5
C822	D-5
C823	C-5
C850	C-14
C901	C-11
C902	C-11
C903	C-10
C905	C-10
C906	C-10
C907	C-10
C908	C-8
C911	B-11
C912	B-11
C914	C-8
C916	C-8
C917	A-12
C918	B-9
C919	B-12
C920	B-6
C921	B-12
C922	B-6
C923	B-6
C924	A-14
C925	B-12
C926	D-11
C927	A-13
C928	B-12
C929	A-13
C930	B-13
CN002	C-1
CN003	E-3
CN004	B-15
CN901	A-2
CN902	A-6
CN906	D-9
CN907	D-1
CN908	A-3
CN909	B-9
CN911	E-2
CN912	E-5
CN913	A-5
CN914	A-5
CN915	D-15
CN916	E-6
CN917	E-9
CN918	E-2
CN919	C-9
D001	D-18
D003	C-18
D004	D-16
D006	C-16
D010	C-1
D011	C-2
D012	C-2
D013	C-2
D014	D-16
D015	B-16
D020	D-3
D022	B-3
D023	B-2
D024	B-3
D801	D-14
D901	B-8
FB800	C-5
FB801	C-4
IC001	D-2
IC002	E-17
IC003	E-17
IC004	D-2
IC005	D-17
IC006	D-16
IC007	C-1
IC008	C-18
IC009	C-17
IC010	C-18
IC011	C-2
IC012	C-3
IC014	B-17
IC015	C-4
IC016	D-4
IC017	D-3
IC018	B-2
IC801	B-14
IC802	C-5
IC803	C-6
IC804	C-13
IC805	C-5
IC901	C-11
IC902	B-13
IC904	B-12
IC905	B-12
IC906	D-11
IC907	A-13
L001	C-16
L002	D-2
L003	C-3
L004	B-16
L005	B-16
L006	B-16
L801	B-14
L802	C-15
L803	C-13
L804	C-14
L805	C-13
L806	C-14
L807	C-14
L901	B-10
L903	B-10
L904	B-11
L905	D-11
PS901	A-5
Q001	D-1
Q002	D-1
Q003	D-2
Q004	C-18
Q005	D-1
Q006	D-2
Q007	E-16
Q008	B-3
Q009	B-3
Q010	B-3
Q011	C-4
Q012	D-4
Q013	E-3
Q014	D-16
Q015	D-16
Q017	B-16
Q018	B-16
Q019	D-2
Q020	B-2
Q021	B-3
Q029	D-3
Q096	E-4
Q902	B-8
Q903	C-8
Q904	B-8
Q905	C-8
Q906	C-8
Q907	B-8
Q908	B-13
Q909	E-14
Q910	B-8
R001	D-1
R002	D-17
R003	E-17
R004	E-17
R005	E-17
R007	D-2
R008	D-2
R010	D-2
R012	D-16
R013	D-3
R014	B-14
R015	B-14
R019	D-3
R021	D-17
R022	C-17
R023	C-17
R024	D-18
R025	D-18
R026	D-18
R027	C-18
R028	C-18
R029	C-18
R031	C-16
R033	D-17
R034	D-17
R035	D-16
R036	C-16
R037	C-16
R038	C-17
R039	C-1
R040	D-1
R041	C-17
R043	D-1
R044	D-1
R045	D-1
R046	D-1
R047	D-1
R048	D-1
R049	D-2
R050	D-2
R051	D-2
R052	D-2
R053	D-2
R054	D-2
R055	D-3
R056	C-1
R057	C-1
R058	C-17
R059	C-16
R061	C-2
R062	C-16
R063	C-15
R064	C-15
R065	B-17
R067	A-17
R068	A-18
R071	B-3
R072	B-3
R073	B-3
R074	B-2
R075	B-2
R080	E-3
R083	E-3
R084	E-3
R085	D-3
R091	D-16
R092	D-16
R094	D-16
R095	E-4
R096	E-4
R098	C-16
R099	C-16
R101	D-17
R102	D-17
R103	C-18
R104	C-18
R105	C-18
R106	C-17
R107	C-18
R108	C-18
R109	C-1
R110	C-1
R111	C-1
R112	C-1
R115	B-14
R116	C-13
R121	C-2
R122	C-2
R123	C-2
R124	C-3
R125	C-3
R127	C-3
R128	C-3
R129	C-3
R130	C-3
R131	C-3
R132	C-3
R142	B-3
R143	B-3
R144	C-3
R145	B-4
R146	B-4
R147	C-4
R148	C-4
R149	C-4
R151	D-4
R152	E-15
R153	E-3
R160	E-16
R162	B-16
R163	B-16
R201	D-18
R202	D-17
R203	C-17
R204	C-17
R205	C-17
R206	C-17
R207	C-17
R208	C-17
R209	C-1
R210	C-1
R211	C-1
R212	C-1
R215	C-13
R221	C-2
R222	C-2
R223	C-2
R224	C-3
R225	C-3
R227	C-3
R228	C-3
R229	C-3
R230	C-3
R231	C-3
R232	D-3
R242	C-4
R243	C-4
R244	C-4
R245	C-4
R246	C-4
R247	C-4
R248	C-4
R249	C-4
R251	E-3
R252	E-3
R253	E-3
R801	B-15
R804	B-15
R806	B-15
R808	B-15
R810	B-5
R811	B-15
R812	B-15
R816	B-15
R817	C-5
R819	C-5
R820	C-6
R821	C-6
R822	C-13
R823	C-5
R824	C-5
R825	C-14
R826	C-14
R827	C-6
R828	D-14
R829	D-14
R830	D-5
R831	D-6
R832	D-5
R833	D-6
R834	D-13
R835	D-13
R836	C-13
R837	B-14
R838	B-14
R839	B-14
R840	B-5
R841	B-15
R842	D-6
R843	D-6
R844	D-6
R902	A-3
R905	A-3
R909	C-11
R910	C-11
R912	C-11
R913	C-11
R915	C-11
R916	C-10
R918	C-10
R919	C-11
R920	C-10
R921	C-10
R922	B-8
R923	C-9
R926	A-13
R927	B-8
R928	C-8
R929	B-8
R930	B-8
R931	C-8
R932	C-8
R933	D-10
R934	D-10
R935	C-8
R936	D-10
R937	B-8
R938	C-11
R939	B-8
R941	B-6
R942	B-6
R943	B-6
R944	B-6
R945	B-12
R946	A-13
R948	D-8
R949	E-11
R950	D-8
R951	D-8
R952	D-8
R953	D-8
R954	D-8
R955	D-8
R956	A-12
R957	E-11
R959	B-12
R960	A-13
R961	D-8
R962	D-8
R964	D-8
R965	E-11
R966	E-11
R967	E-11
R968	E-11
R972	C-10
RB001	D-1
RB002	D-2
RB003	C-4
RB004	D-4
RV001	B-6
RV002	C-7
X001	A-17

AU-192 (AUDIO) PRINTED WIRING BOARD

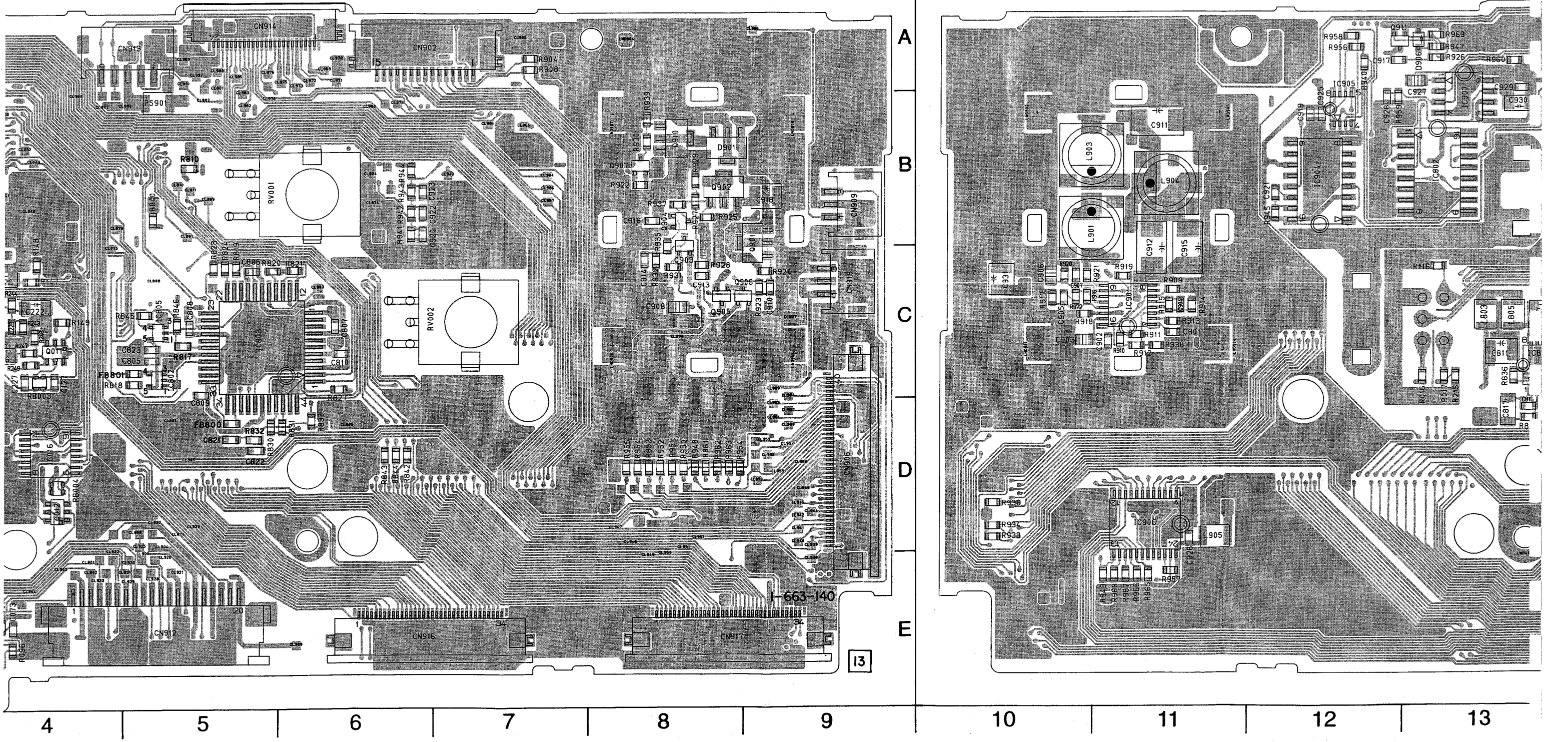
— Ref. No. AU-192 Board; 2,000 Series —

There are few cases that the part printed on this diagram isn't mounted in this model.

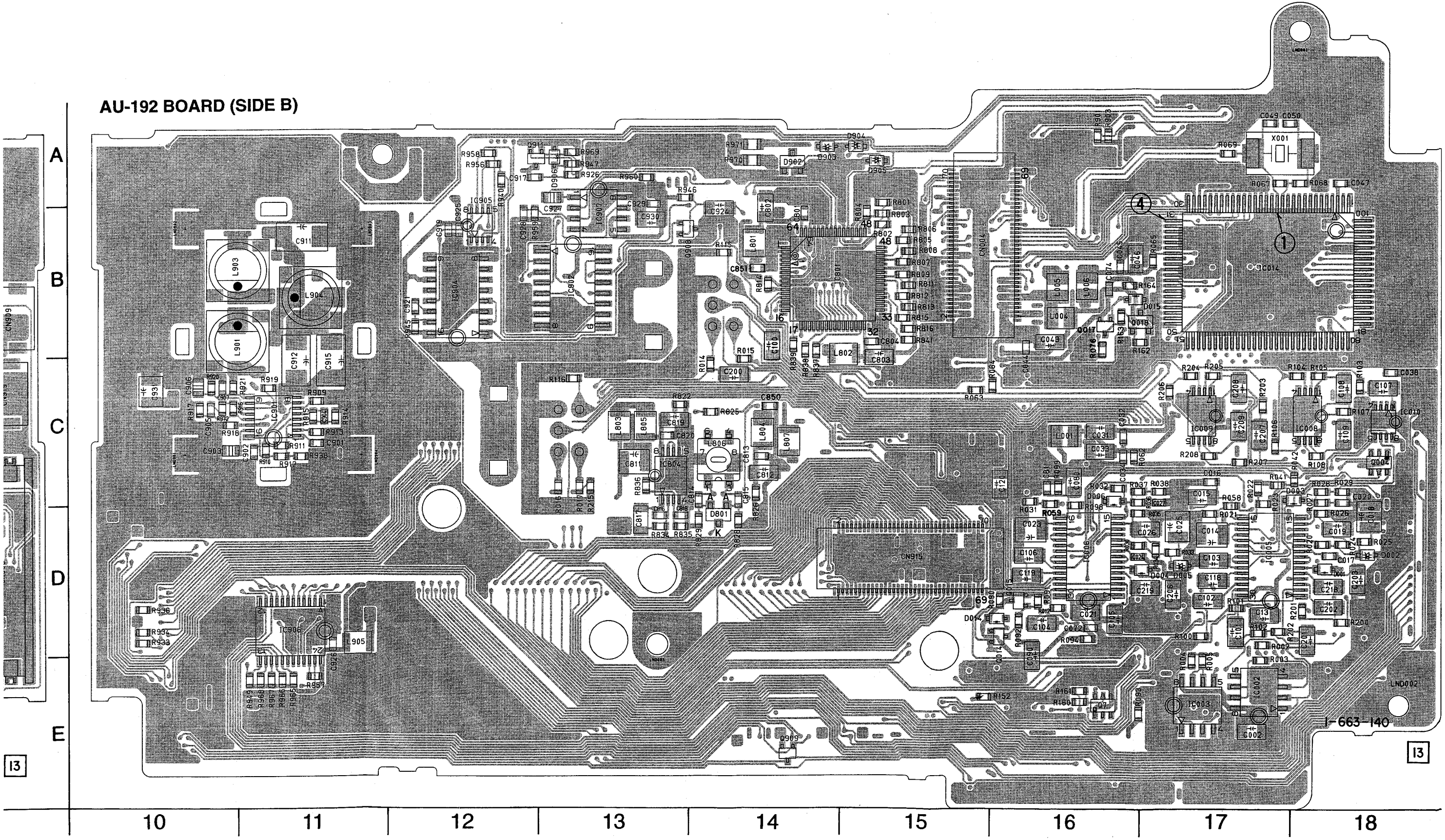

AU-192
(Audio)
JC-15
(Main)
VF-105
(EVF connector)
MA-280
(Mic amp)
EM-10
(Mic jack)
RT-21
(Remote sensor 1)
LH-10
(Headphone jack)
FK-68
(Control panel)
SW-286
(Power switch)
AM-38
(Shutter speed switch)
HR-11
(Remote sensor 2)
GP-14
(Buzzer)
ED-44
(Edit search switch)


AU-192 BOARD (SIDE A)
A
B
C
D
E
1
2
3
4
5
6
7
16
CN901
CN908
CN913
CN914
CN902
CN002
CN909
CN911
CN910
CN003
CN912
CN916
RV001
RV002
IC013
IC016
IC803
IC015
IC012
IC001
IC004
IC007
C048
FS901
R904
R908

AU-192 BOARD (SIDE B)


A
B
C
D
E
4
5
6
7
8
9
10
11
12
13
CN914
CN913
CN902
S901
R904
R908
R810
RV001
RV002
IC803
R845
R817
FB801
R818
Q011
C222
R149
IC016
R832
C821
C822
FB800
C805
C823
C810
R827
D901
Q902
Q910
Q907
R922
C916
Q903
R928
C913
C906
Q905
Q906
Q901
R925
R924
C918
CN909
CN910
CN906
CN912
CN916
CN917
1-663-140
13
L903
L901
L904
C911
C912
C915
C933
IC901
R919
R921
R909
R913
R914
R911
R912
R930
C901
C902
C903
C905
R918
IC904
IC802
IC905
IC907
C927
C929
C930
C917
R958
R956
R969
R947
R926
R960
Q911
D906
C919
C925
C928
C921
R116
L803
L805
C811
C816
R836
R936
R934
R933
IC906
L905
C926
R957
R966
R968
R949

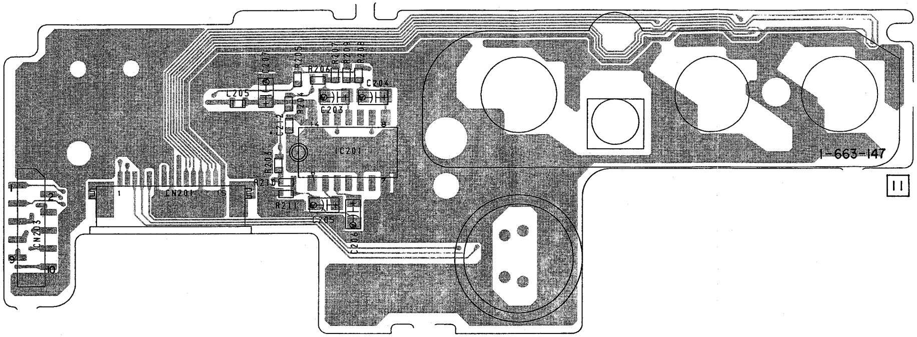
AU-192 BOARD (SIDE B)


A
B
C
D
E
10
11
12
13
14
15
16
17
18
13
13
1-663-140

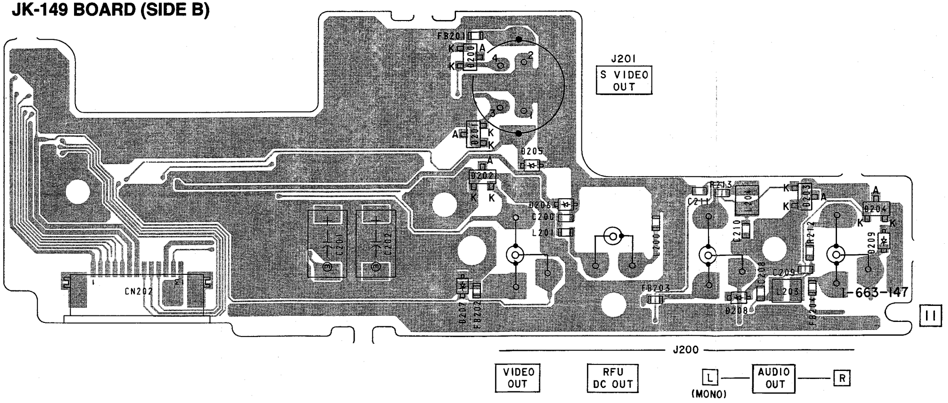
JK-149 (VIDEO/AUDIO OUTPUT), EM-10 (MIC JACK), MA-280 (MIC AMP) PRINTED WIRING BOARDS
— Ref. No. JK-149 Board; 4,000 Series, EM-10, MA-280 Board; 2,000 Series —

There are few cases that the part printed on this diagram isn't mounted in this model.

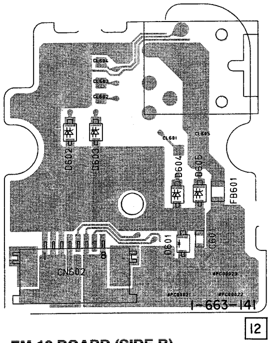
JK-149 BOARD (SIDE A)


L207
R205
R207
R209
R208
R206
L205
C204
C203
R204
C212
IC201
R203
R210
R211
C205
C206
CN201
CN203
1-663-147
11

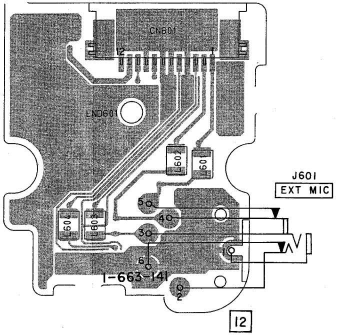
JK-149 BOARD (SIDE B)


FB201
D200
D201
D202
D205
D206
C200
L201
C201
C202
CN202
D207
FB202
J201
S VIDEO OUT
L200
R213
C211
L204
D203
D204
C210
R212
D209
C208
C209
L203
FB203
D208
FB204
1-663-147
11
J200
VIDEO OUT
RFU DC OUT
L
(MONO)
AUDIO OUT
R

EM-10 BOARD (SIDE A)

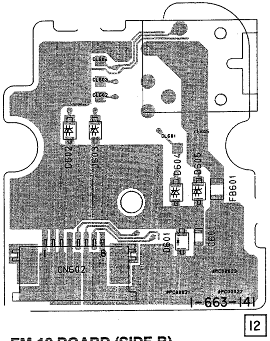

CL604
CL603
CL602
CL601
CL605
D602
D603
D604
D605
FB601
D601
C601
CN602
1-663-141
12

EM-10 BOARD (SIDE B)

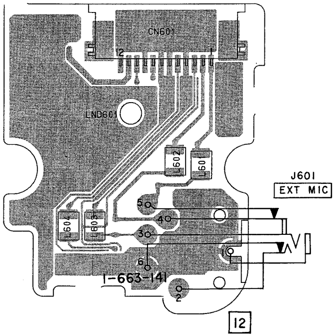

CN601
12
LND601
L602
L601
L604
L603
J601
EXT MIC
5
4
3
1
6
2
1-663-141
12

ounted in this model.

EM-10 BOARD (SIDE A)

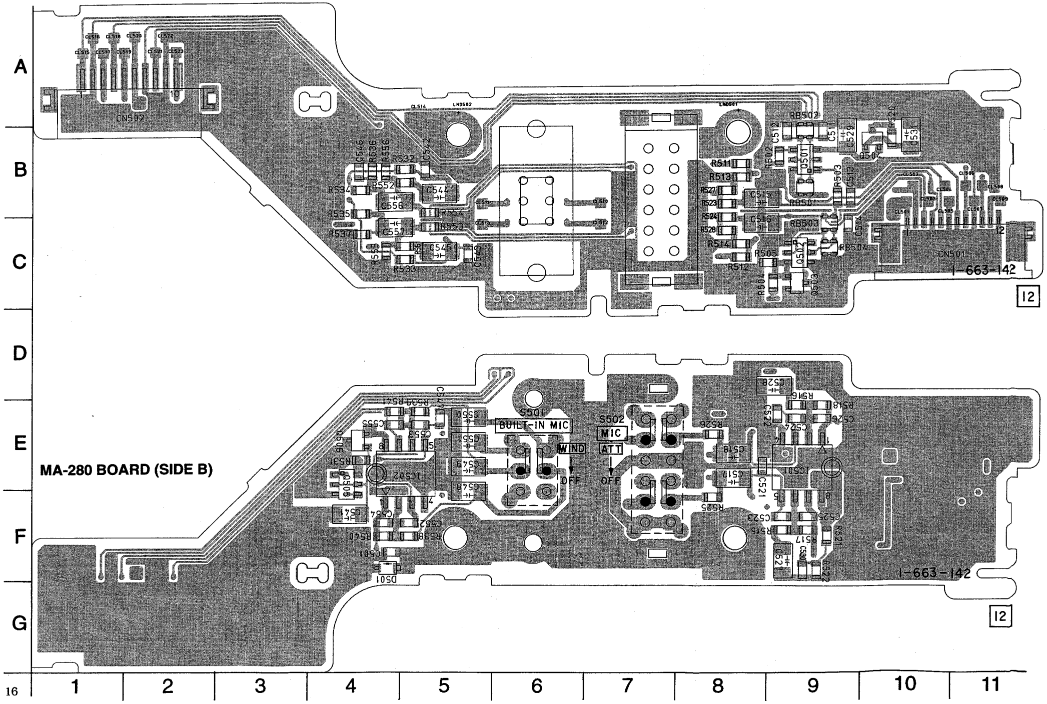

CL604
CL603
CL602
CL601
CL605
D602
D603
D604
D605
FB601
D601
C601
CN502
1-663-141
12

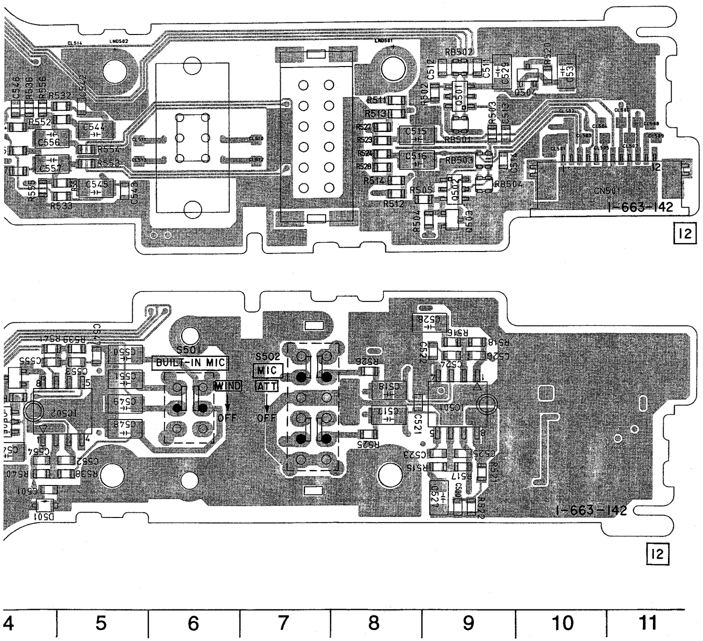
EM-10 BOARD (SIDE B)


CN601
12
LND601
L602
L601
L604
L603
J601
EXT MIC
5
4
3
1
6
2
1-663-141
12

MA-280 BOARD (SIDE A)

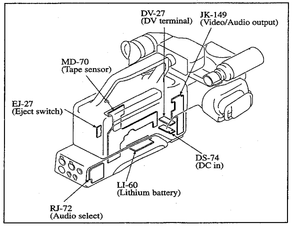
MA-280 BOARD (SIDE B)

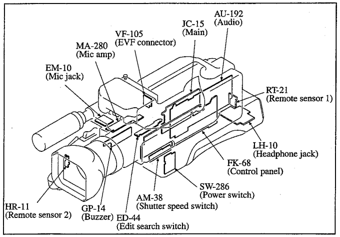

A
B
C
D
E
F
G
1
2
3
4
5
6
7
8
9
10
11
CN502
CN501
LND502
LND501
CL514
R536
R532
C546
C542
R534
R552
C556
C544
R554
R535
R553
R537
C557
C545
R550
R533
C543
R511
R513
R527
R523
R524
R528
R514
R512
R502
RB502
C512
Q501
C511
C529
C531
R520
Q502
R503
C513
RB501
C515
C516
RB503
R505
Q503
R504
RB504
1-663-142
12
S501
BUILT-IN MIC
WIND
OFF
S502
MIC
ATT
OFF
C555
C553
C550
C551
C549
C548
C554
C552
C541
R539
R541
R540
R538
R531
D501
IC502
Q506
R526
C518
C517
C521
C522
C524
C528
R516
R518
C526
IC501
R525
C523
C525
R515
R517
C530
C527
R521
R522
1-663-142
12


CL514
LND502
LND501
RB502
C512
R502
Q501
C511
C529
Q504
R520
C531
R511
R513
R503
C513
C515
RB501
C516
RB503
C514
R514
R505
R512
Q502
RB504
R504
Q503
CN501
1-663-142
12
C546
R538
R556
R532
C542
R552
C544
C556
R554
R553
C557
C545
C543
R539
R533
S501
BUILT-IN MIC
WIND
OFF
S502
MIC
ATT
OFF
C550
C551
C549
C548
C553
C555
IC502
C554
C552
R536
R540
C541
D501
R526
C518
C517
IC501
C521
R525
C523
R515
C528
R516
R518
C522
C524
C526
C525
R517
C530
C527
R521
R522
1-663-142
12
4
5
6
7
8
9
10
11

MA-280 BOARD

C511	B-9	D501	F-4	R536	B-4
C512	B-9			R537	C-4
C513	B-9	IC501	E-9	R538	F-5
C514	C-9	IC502	E-5	R539	E-5
C515	B-8			R540	F-4
C516	C-8	Q501	B-9	R541	E-4
C517	E-8	Q502	C-9	R551	C-5
C518	E-8	Q503	C-9	R552	B-5
C521	E-9	Q504	B-10	R553	C-5
C522	E-9	Q505	E-4	R554	B-5
C523	F-9	Q506	E-4	R555	C-4
C524	E-9			R556	B-4
C525	F-9	R502	B-9		
C526	E-9	R503	B-9	RB501	B-9
C527	F-9	R504	C-9	RB502	B-9
C528	D-9	R505	C-8	RB503	C-9
C530	F-9	R511	B-8	RB504	C-9
C531	B-10	R512	C-8		
C541	F-4	R513	B-8	S501	E-6
C542	B-5	R514	C-8	S502	E-7
C543	C-5	R515	F-9		
C544	B-5	R516	D-9		
C545	C-5	R517	F-9		
C546	B-4	R518	D-9		
C547	E-5	R520	B-10		
C548	E-5	R521	F-9		
C549	E-5	R522	F-9		
C550	E-5	R523	B-8		
C551	E-5	R524	C-8		
C552	F-5	R525	F-8		
C553	E-5	R526	E-8		
C554	F-4	R527	B-8		
C555	E-4	R528	C-8		
C556	B-4	R531	E-4		
C557	C-4	R532	B-5		
		R533	C-5		
CN501	C-11	R534	B-4		
CN502	A-2	R535	B-4		


DV-27
(DV terminal)
JK-149
(Video/Audio output)
MD-70
(Tape sensor)
EJ-27
(Eject switch)
DS-74
(DC in)
LI-60
(Lithium battery)
RJ-72
(Audio select)

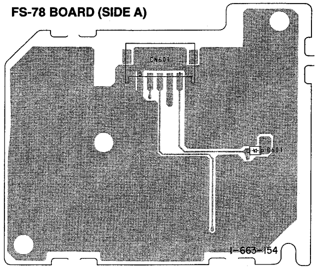

AU-192
(Audio)
JC-15
(Main)
VF-105
(EVF connector)
MA-280
(Mic amp)
EM-10
(Mic jack)
RT-21
(Remote sensor 1)
LH-10
(Headphone jack)
FK-68
(Control panel)
SW-286
(Power switch)
AM-38
(Shutter speed switch)
HR-11
(Remote sensor 2)
GP-14
(Buzzer)
ED-44
(Edit search switch)

EJ-27 (EJECT SWITCH), GP-14 (BUZZER), HR-11 (REMOTE SENSOR 2), LH-10 (HEADPHONE JACK), RT-21 (REMOTE SENSOR 1), VK-41 (PLAYER SWITCH), FS-78 (START/STOP SWITCH) PRINTED WIRING BOARDS

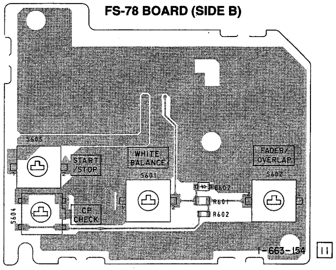
— Ref. No. EJ-27, HR-11, VK-41 Board; 4,000 Series, GP-14, LH-10, RT-21, FS-78 Board; 5,000 Series —

There are few cases that the part prin d on this

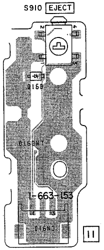
FS-78 BOARD (SIDE A)


CN601
D601
1-663-154
11

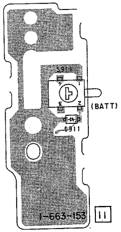
FS-78 BOARD (SIDE B)


S603
START
/STOP
WHITE
BALANCE
S601
FADER/
OVERLAP
S602
D602
R601
R602
S604
CP
CHECK
1-663-154
11

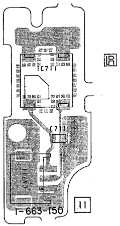
EJ-27 BOARD (SIDE A)


S910
EJECT
D150
D160N1
1-663-153
D16N3
11

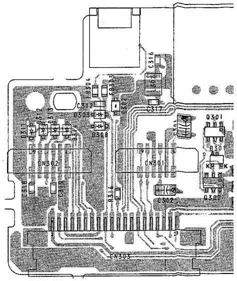
EJ-27 BOARD (SIDE B)


S911
(BATT)
D911
1-663-153
11

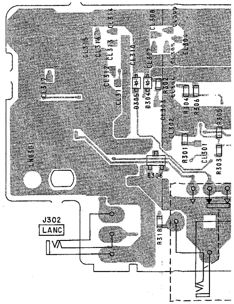
HR-11 BOARD


IC711
C711
CN711
1-663-150
11

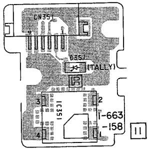
LH-10 BOARD (SIDE A)


C316
FB304
FB303
L302
C312
D302
C317
D303
D308
D311
D312
D313
D314
C301
Q301
D301
A
K
K
CN302
CN301
C318
C319
R316
C302
Q302
CN303

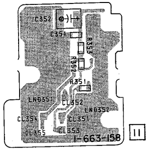
LH-10 BOARD (SIDE B)


CL314
CL308
CL309
CL315
CL316
CL313
CL310
CL307
CL305
CL304
CL317
CL312
CL311
D305
D304
R302
CL306
R304
R306
CL303
R305
CL302
LND301
R301
CL301
R303
Q306
J302
LANC
R318

RT-21 BOARD (SIDE A)

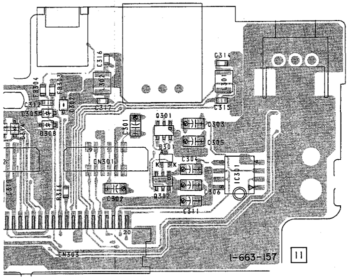

CN351
D351
(TALLY)
IC351
3
2
4
1-663
-158
11

RT-21 BOARD (SIDE B)

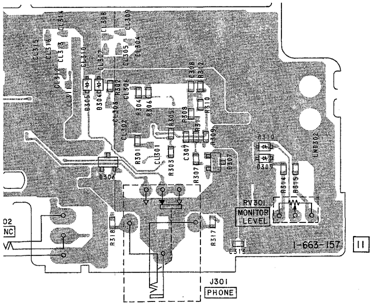

C352
C351
R353
R352
R351
LND351
CL352
LND352
CL354
CL351
CL355
CL353
1-663-158
11

cases that the part printed on this diagram isn't mounted in this model.

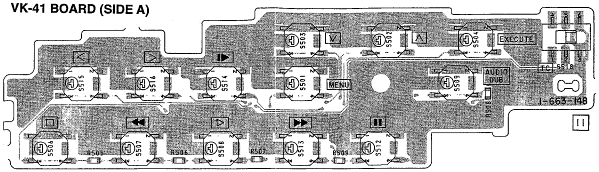
OARD (SIDE A)


C314
C316
C315
C313
Q301
D303
D305
D304
D306
D302
IC301
CN301
CN303
R316
C311
20
1-663-157
II

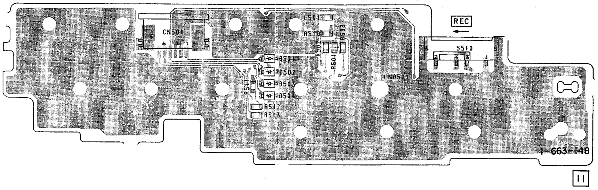
OARD (SIDE B)


RV301
MONITOR LEVEL
J301
PHONE
R317
R318
C319
CN302
D310
D309
1-663-157
II

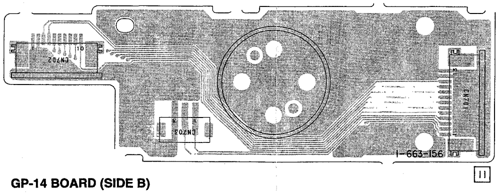
VK-41 BOARD (SIDE A)


S503
S502
S504
EXECUTE
S515
S516
S514
S501
MENU
S509
AUDIO DUB
TC
S518
S506
S507
S508
S513
S512
R505
R506
R507
R509
R508
1-663-148
II

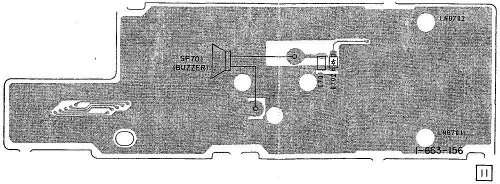
VK-41 BOARD (SIDE B)

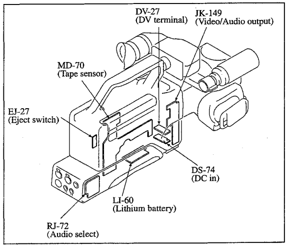

CN501
L501
R510
REC
S510
D501
D502
D503
D504
R512
R513
LND501
1-663-148
II

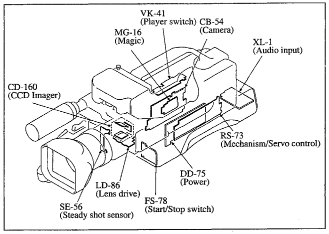
GP-14 BOARD (SIDE A)

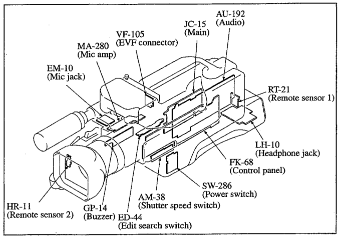

CN702
CN701
CN703
1-663-156
II

GP-14 BOARD (SIDE B)


LND702
SP701
(BUZZER)
LND701
1-663-156
II


DV-27
(DV terminal)
JK-149
(Video/Audio output)
MD-70
(Tape sensor)
EJ-27
(Eject switch)
DS-74
(DC in)
LI-60
(Lithium battery)
RJ-72
(Audio select)


VK-41
(Player switch)
CB-54
(Camera)
MG-16
(Magic)
XL-1
(Audio input)
CD-160
(CCD Imager)
RS-73
(Mechanism/Servo control)
DD-75
(Power)
LD-86
(Lens drive)
FS-78
(Start/Stop switch)
SE-56
(Steady shot sensor)


AU-192
(Audio)
JC-15
(Main)
VF-105
(EVF connector)
MA-280
(Mic amp)
EM-10
(Mic jack)
RT-21
(Remote sensor 1)
LH-10
(Headphone jack)
FK-68
(Control panel)
SW-286
(Power switch)
AM-38
(Shutter speed switch)
HR-11
(Remote sensor 2)
GP-14
(Buzzer)
ED-44
(Edit search switch)

EJECT SELECT	BUZZER	REMOTE SENSOR 2	HEADPHONE JACK	REMOTE SENSOR 1	PLAYER SWITCH	START/STOP SWITC
EJ-27	GP-14	HR-11	LH-10	RT-21	VK-41	FS-78

DD-75 (POWER), DS-74 (DC IN) PRINTED WIRING BOARDS

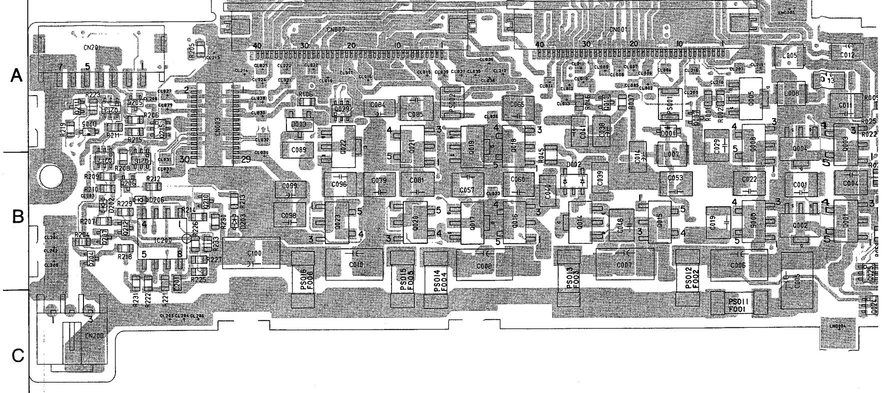
— Ref. No. DD-75 Board; 6,000 Series, DS-74 Board; 4,000 Series —

There are few cases that the part printed on this diagram isn't mounted in this model.

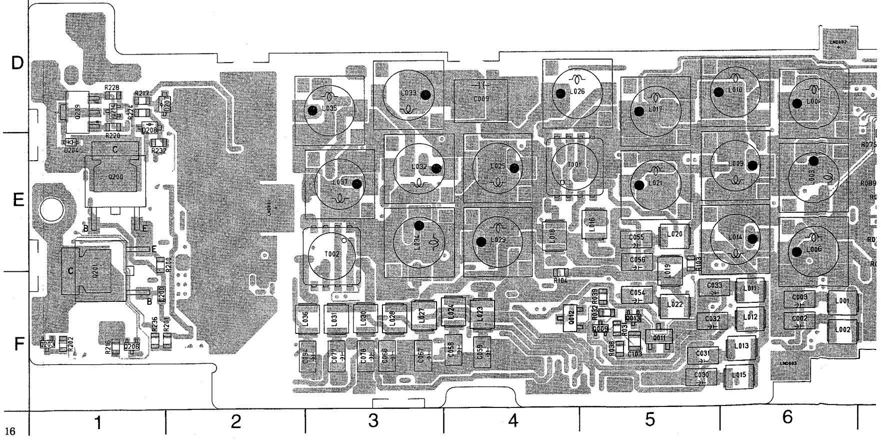
DD-75 BOARD

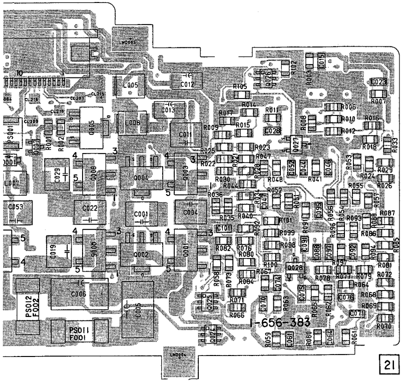
C001	B-6	C066	F-3	IC002	D-7	Q016	B-4	R035	B-7	R100	B-7
C002	F-6	C067	F-3	IC200	B-1	Q017	B-4	R036	B-7	R101	B-7
C003	F-6	C068	D-8			Q018	A-4	R037	A-5	R102	A-7
C004	B-6	C069	D-7	L001	F-6	Q019	A-4	R038	F-5	R103	E-5
C005	B-6	C070	B-7	L002	F-6	Q020	B-3	R039	F-5	R105	A-7
C006	B-6	C071	B-8	L003	E-6	Q021	A-3	R040	B-7	R106	A-2
C007	B-5	C072	D-8	L004	D-6	Q022	A-3	R041	A-7	R200	E-1
C008	B-4	C073	D-7	L005	A-6	Q023	B-3	R042	E-8	R201	F-1
C009	D-4	C074	B-7	L006	E-6	Q024	C-7	R043	E-7	R202	F-1
C010	B-3	C075	B-7	L007	A-5	Q025	B-7	R044	B-7	R204	B-1
C011	A-6	C076	B-8	L008	A-6	Q026	A-7	R045	B-4	R205	A-2
C012	A-6	C077	F-3	L009	E-6	Q027	A-7	R046	A-5	R206	A-1
C013	A-6	C078	F-3	L010	D-6	Q028	B-7	R047	A-7	R207	B-1
C014	A-5	C079	B-3	L011	F-6	Q029	A-3	R048	A-7	R208	B-1
C015	A-7	C080	D-8	L012	F-6	Q200	E-1	R049	E-8	R209	B-1
C016	F-7	C081	B-3	L013	F-6	Q201	E-1	R050	E-7	R210	B-1
C017	F-7	C082	E-7	L014	E-6	Q203	F-1	R051	B-7	R211	A-1
C018	F-7	C083	E-8	L015	F-6	Q204	B-1	R052	B-7	R212	B-1
C019	B-5	C084	A-3	L016	E-5	Q205	A-1	R053	A-8	R213	B-2
C020	F-7	C085	A-3	L017	D-5	Q206	B-1	R054	B-8	R214	B-2
C021	F-8	C086	E-7	L018	E-4	Q207	B-1	R055	B-8	R215	A-1
C022	B-6	C087	E-8	L019	E-5	Q208	F-1	R056	B-7	R216	F-1
C023	A-8	C088	B-7	L020	E-5	Q209	D-1	R057	B-8	R217	D-1
C024	F-7	C089	B-2	L021	E-5	Q210	B-2	R058	B-7	R218	B-1
C025	F-7	C090	E-7	L022	F-5	Q211	A-1	R059	C-7	R219	A-1
C026	F-8	C091	B-7	L023	F-4	Q213	A-1	R060	C-7	R220	D-1
C027	F-8	C092	B-8	L024	F-4	Q214	D-1	R061	C-8	R221	B-1
C028	A-7	C093	E-7	L025	E-4	Q215	A-1	R062	B-7	R222	B-1
C029	A-5	C094	F-3	L026	D-4	Q216	B-1	R063	B-7	R223	A-1
C030	F-5	C095	B-7	L027	F-3	Q217	B-1	R064	B-8	R224	D-1
C031	F-5	C096	B-3	L028	F-3			R065	B-7	R225	B-2
C032	F-5	C097	B-7	L029	E-4	R001	A-5	R066	B-7	R226	B-2
C033	F-5	C098	B-2	L030	F-3	R002	A-5	R067	B-7	R227	B-2
C034	F-7	C099	B-2	L031	F-3	R003	A-7	R068	B-8	R228	D-1
C035	E-8	C100	B-2	L032	E-3	R004	F-7	R069	B-8	R230	B-2
C036	E-7	C101	B-7	L033	D-3	R005	F-7	R070	C-8	R231	B-1
C037	E-7	C102	E-8	L034	E-3	R006	A-7	R071	B-7	R232	E-1
C038	A-5	C103	F-5	L035	D-3	R007	A-8	R072	B-8	R233	B-2
C039	B-5	C201	B-2	L036	F-3	R008	A-7	R073	B-7	R236	F-1
C040	B-4			L037	E-3	R009	A-7	R074	E-8		
C041	A-5	CN001	A-5			R010	A-7	R075	E-7	T001	E-4
C042	E-8	CN002	A-3	PS001	A-5	R011	A-7	R076	B-7	T002	E-3
C043	E-7	CN003	A-2	PS002	A-4	R012	A-7	R077	B-8		
C044	A-7	CN200	C-1	PS011	C-6	R013	F-8	R078	B-7		
C045	E-7	CN201	A-1	PS012	B-5	R014	A-7	R079	B-8		
C046	A-7			PS013	B-4	R015	A-7	R080	B-7		
C047	B-7	D001	A-5	PS014	B-4	R016	A-8	R081	B-8		
C048	B-5	D002	B-5	PS015	B-3	R017	A-7	R082	B-7		
C049	E-8	D003	A-2	PS016	B-3	R018	A-8	R083	E-8		
C050	E-7	D202	B-1			R019	E-7	R084	B-7		
C051	E-7	D203	B-2	Q001	B-6	R020	E-8	R085	B-8		
C052	A-7	D204	E-1	Q002	B-6	R021	A-7	R086	B-8		
C053	B-5	D205	A-1	Q003	B-6	R022	A-7	R087	B-8		
C054	F-5	D206	B-1	Q004	B-6	R023	A-7	R088	B-8		
C055	E-5	D207	D-1	Q005	A-6	R024	A-8	R089	E-7		
C056	E-5	D208	D-1	Q006	B-6	R025	A-7	R090	E-8		
C057	B-4			Q007	A-5	R026	B-8	R091	B-7		
C058	F-4	F001	C-6	Q008	B-6	R027	E-7	R092	B-7		
C059	F-4	F002	B-5	Q009	F-5	R028	A-7	R093	B-8		
C060	B-4	F003	B-4	Q010	A-5	R029	A-8	R094	B-8		
C061	C-7	F004	B-4	Q011	F-5	R030	A-7	R095	E-7		
C062	D-7	F005	B-3	Q012	F-4	R031	F-5	R096	B-8		
C063	D-7	F006	B-3	Q013	F-5	R032	F-5	R097	B-8		
C064	C-7			Q014	B-5	R033	A-8	R098	B-7		
C065	A-4	IC001	E-7	Q015	B-5	R034	B-7	R099	B-7		

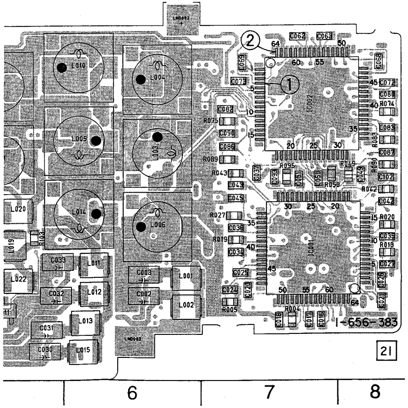
DD-75 BOARD (SIDE A)



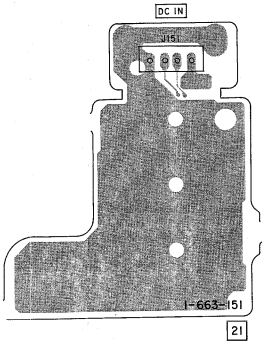
DD-75 BOARD (SIDE B)



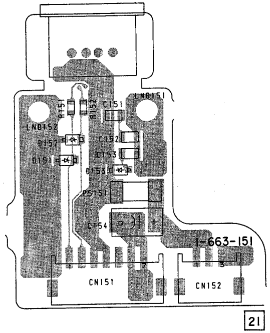


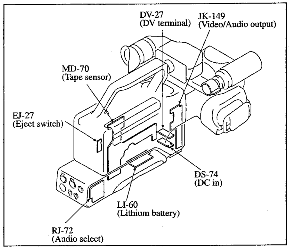

IC002
IC001
1-656-383
21
6
7
8

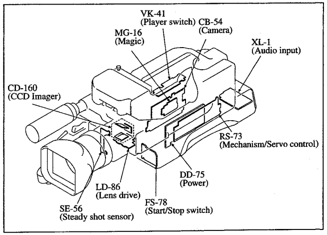
DS-74 BOARD (SIDE A)


DC IN
J151
1-663-151
21

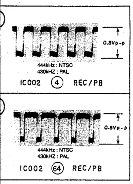
DS-74 BOARD (SIDE B)


C151
LND151
LND152
D152
C152
D151
C153
D153
PS151
C154
1-663-151
CN151
CN152
21


DV-27
(DV terminal)
JK-149
(Video/Audio output)
MD-70
(Tape sensor)
EJ-27
(Eject switch)
DS-74
(DC in)
LI-60
(Lithium battery)
RJ-72
(Audio select)

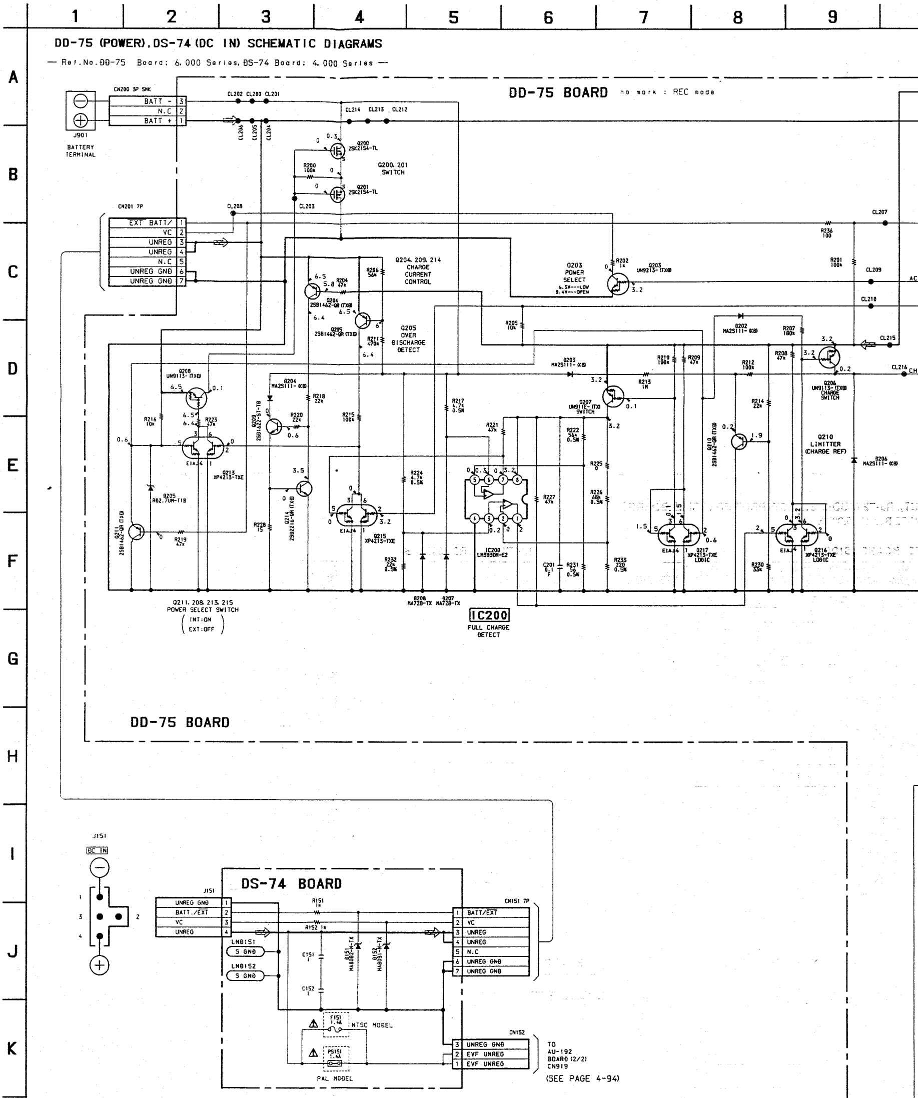

VK-41
(Player switch)
CB-54
(Camera)
MG-16
(Magic)
XL-1
(Audio input)
CD-160
(CCD Imager)
RS-73
(Mechanism/Servo control)
DD-75
(Power)
LD-86
(Lens drive)
FS-78
(Start/Stop switch)
SE-56
(Steady shot sensor)

D-75 BOARD



DD-75 (POWER), DS-74 (DC IN) SCHEMATIC DIAGRAMS

— Ref.No.DD-75 Board: 6,000 Series, DS-74 Board: 4,000 Series —

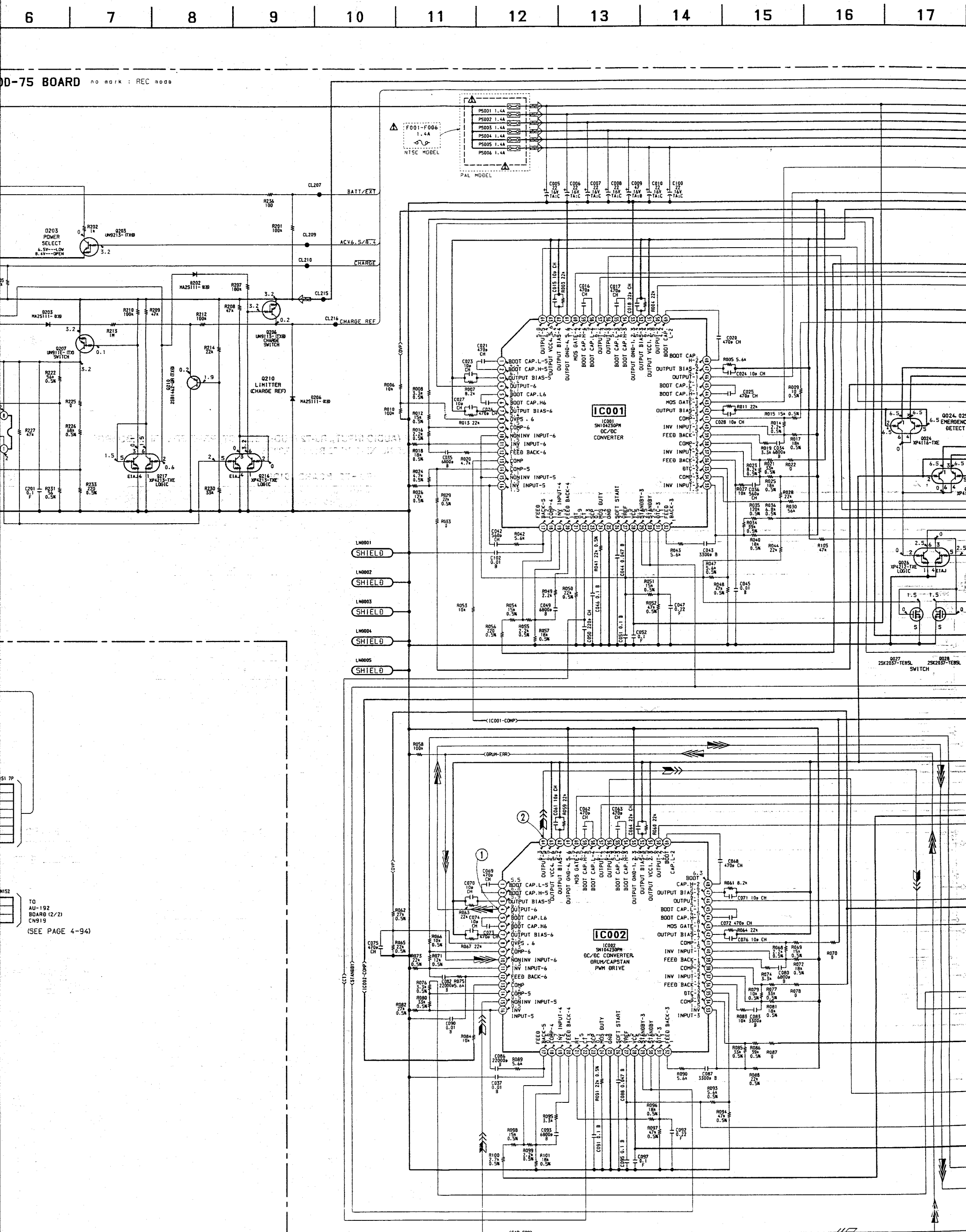


1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
G
H
I
J
K
DD-75 BOARD
no mark : REC mode
CN200 3P SMK
BATT -
N.C
BATT +
J901
BATTERY TERMINAL
CL202 CL200 CL201
CL214 CL213 CL212
CL206 CL205 CL204
Q200 2SK2154-TL
Q201 2SK2154-TL
Q200, 201 SWITCH
R200 100k
CN201 7P
EXT BATT/
VC
UNREG
UNREG
N.C
UNREG GND
UNREG GND
CL208
CL203
Q204, 205, 214 CHARGE CURRENT CONTROL
Q204 2SB1462-QR (TX)
Q205 2SB1462-QR (TX)
Q205 OVER DISCHARGE DETECT
Q203 POWER SELECT 6.5V---LOW 8.4V---OPEN
Q203 UN9213-(TX)
CL207
CL209
CL210
CL215
CL216
Q202 MA2S111-(K8)
Q206 UN9113-(TX) CHARGE SWITCH
Q207 UN911E-(TX) SWITCH
D203 MA2S111-(K8)
Q208 UN9113-(TX)
D204 MA2S111-(K8)
Q209 2SD1462-T1-TB
Q213 XP4213-TXE
D205 RB2.7UM-T1B
Q211 2SB1462-QR (TX)
Q214 2SD2216-QR (TX)
Q215 XP4213-TXE
IC200 LM393OR-E2
Q217 XP4213-TXE LOGIC
Q216 XP4213-TXE LOGIC
Q210 2SB1462-QR (TX)
Q210 LIMITTER (CHARGE REF)
D206 MA2S111-(K8)
D208 MA728-TX
D207 MA728-TX
Q211, 208, 213, 215 POWER SELECT SWITCH (INT:ON EXT:OFF)
IC200 FULL CHARGE DETECT
DD-75 BOARD
J151 DC IN
DS-74 BOARD
J151
UNREG GND
BATT./EXT
VC
UNREG
R151 1k
R152 1k
LND151 S GND
LND152 S GND
C151
C152
D151 MA8082-M-TX
D152 MA8091-M-TX
F151 1.4A NTSC MODEL
PS151 1.4A PAL MODEL
CN151 7P
BATT/EXT
VC
UNREG
UNREG
N.C
UNREG GND
UNREG GND
CN152
UNREG GND
EVF UNREG
EVF UNREG
TO AU-192 BOARD (2/2) CN919 (SEE PAGE 4-94)

·SIGNAL PATH

	REC	REC/PB	PB
Drum servo (speed and phase)		⋙	
Capstan servo (speed and phase)		⋙	

Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.


6
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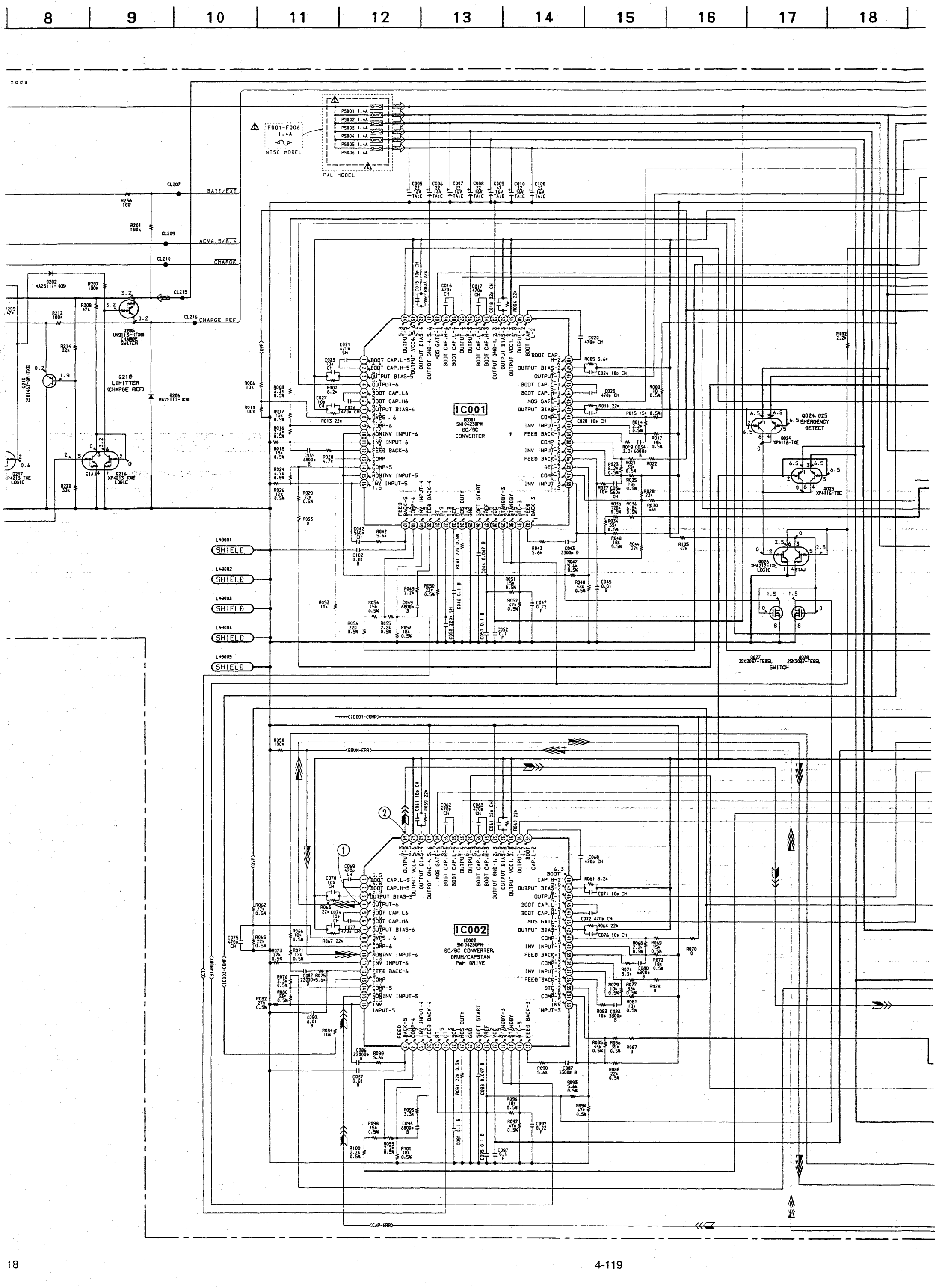
16
17
D-75 BOARD
no mark : REC mode
F001-F006
1.4A
NTSC MODEL
PS001 1.4A
PS002 1.4A
PS003 1.4A
PS004 1.4A
PS005 1.4A
PS006 1.4A
PAL MODEL
CL207
BATT/EXT
R236 100
R201 100k
CL209
ACV6.5/8.4
CL210
CHARGE
D203 POWER SELECT
6.5V---LOW
8.4V---OPEN
R202 1k
Q203 UN9213-(TX)
D202 MA2S111-(K8)
R207 180k
CL215
R208 47k
CL216
CHARGE REF
Q206 UN9113-(TX) CHARGE SWITCH
D203 MA2S111-(K8)
R210 100k
R209 47k
R212 100k
R213 1M
Q207 UN911E-(TX) SWITCH
R214 22k
Q210 2SB1462-QR(TX)
Q210 LIMITTER (CHARGE REF)
D206 MA2S111-(K8)
R222 56k 0.5%
R225 0
R226 68k 0.5%
R227 47k
Q217 XP4213-TXE LOGIC
Q216 XP4213-TXE LOGIC
C201 0.1 F
R231 56 0.5%
R233 220 0.5%
R230 33k
C005 22 16V TA:C
C006 22 16V TA:C
C007 22 16V TA:C
C008 22 16V TA:C
C009 47 16V TA:B
C010 22 16V TA:C
C100 22 16V TA:C
IC001
IC001 SN104230PM DC/DC CONVERTER
BOOT CAP.L-5
BOOT CAP.H-5
OUTPUT BIAS-5
OUTPUT-6
BOOT CAP.L6
BOOT CAP.H6
OUTPUT BIAS-6
OVPS
COMP-6
NONINV INPUT-6
INV INPUT-6
FEED BACK-6
COMP
COMP-5
NONINV INPUT-5
INV INPUT-5
BOOT CAP.H-2
OUTPUT BIAS-2
OUTPUT-1
BOOT CAP.L-1
BOOT CAP.H-1
MOS GATE-1
OUTPUT BIAS-1
COMP-1
INV INPUT-1
FEED BACK-1
COMP-2
INV INPUT-2
FEED BACK-2
BTC
COMP-3
INV INPUT-3
(OVP)
R006 10k
R010 100k
LN0001 SHIELD
LN0002 SHIELD
LN0003 SHIELD
LN0004 SHIELD
LN0005 SHIELD
Q024, Q025 EMERGENCY DETECT
Q024 XP4116-TXE
Q026 XP4212-TXE LOGIC
Q027 2SK2037-TE85L
Q028 2SK2037-TE85L
SWITCH
CN151 7P
CN152
TO AU-192 BOARD (2/2) CN919
(SEE PAGE 4-94)
<IC001-COMP>
<DRUM-ERR>
(CT)
<STANDBY>
<IC002-COMP>
②
①
IC002
IC002 SN104230PM DC/DC CONVERTER DRUM/CAPSTAN PWM DRIVE
<CAP-ERR>


8
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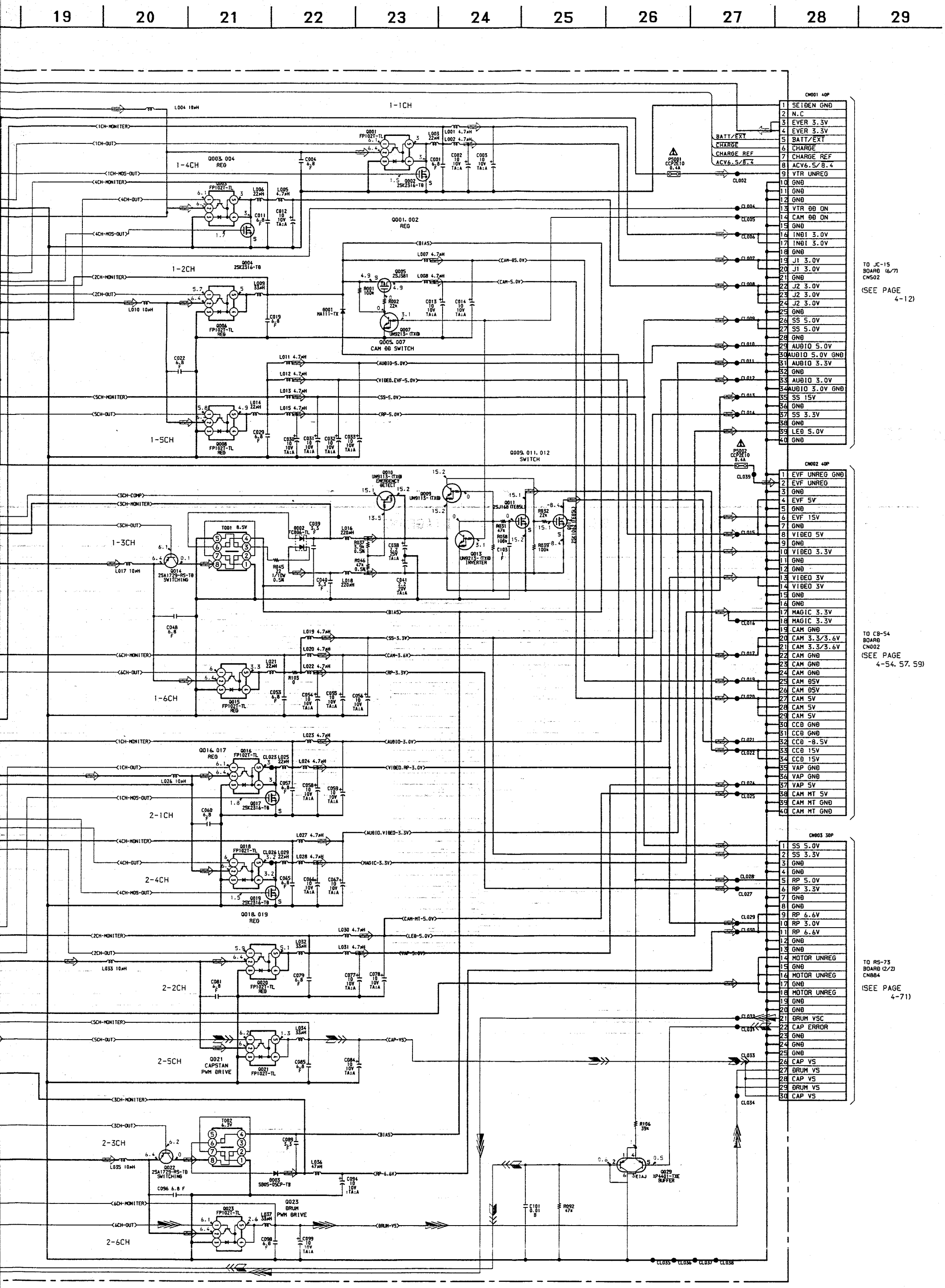
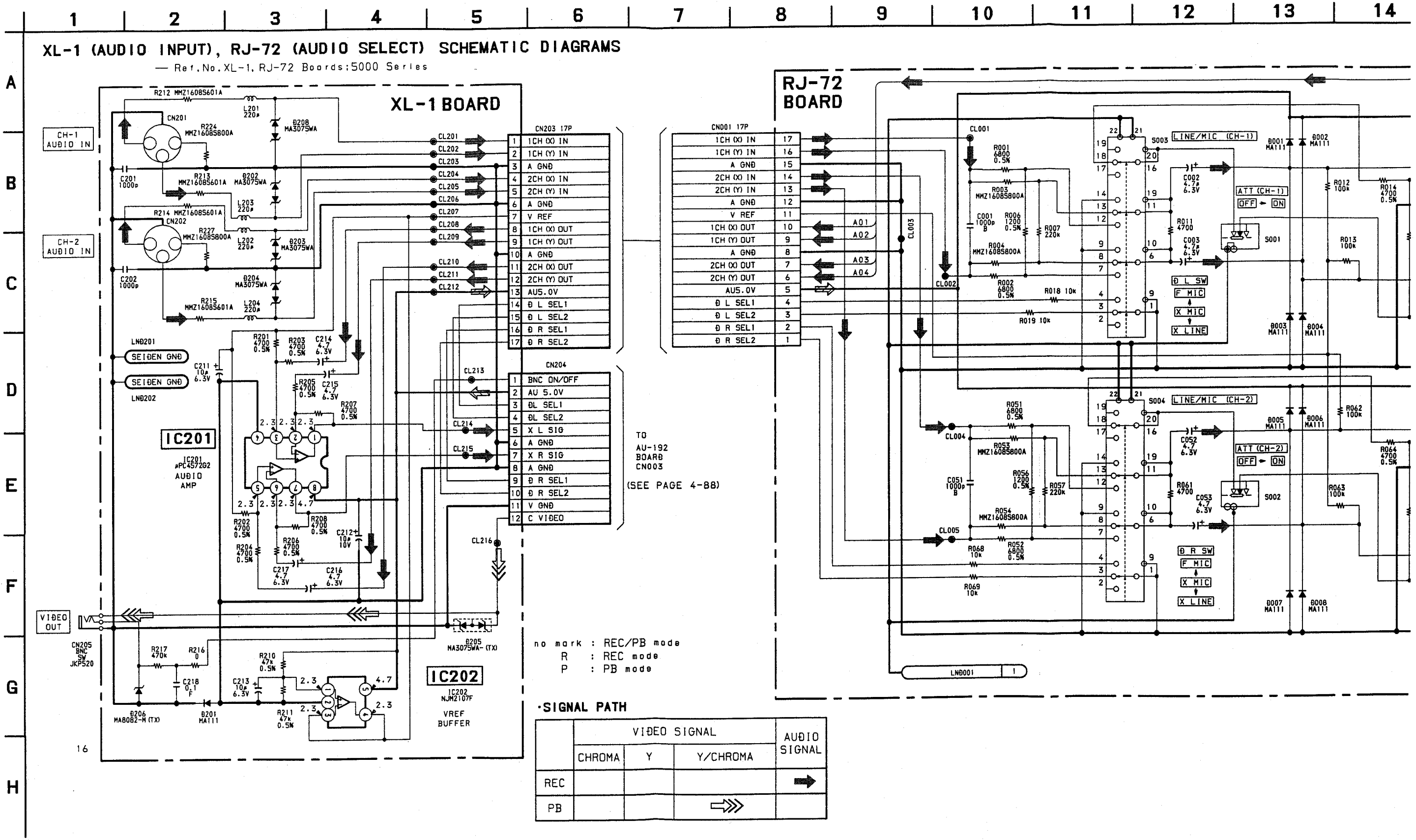
11
12
13
14
15
16
17
18
F001-F006 1.4A
NTSC MODEL
PS001 1.4A
PS002 1.4A
PS003 1.4A
PS004 1.4A
PS005 1.4A
PS006 1.4A
PAL MODEL
CL207
BATT/EXT
R236 100
R201 180k
CL209
ACV6.5/8.4
CL210
CHARGE
D202 MA2S111-(K8)
R207 180k
CL215
R208 47k
CL216
CHARGE REF
Q206 UN9113-(TX)
CHARGE SWITCH
R212 100k
R214 22k
Q210 2SB1462-(Q)(TX)
Q210 LIMITTER (CHARGE REF)
D206 MA2S111-(K8)
Q217 XP4213-TXE LOGIC
Q216 XP4213-TXE LOGIC
R230 33k
EIAJ
IC001
SN104230PM
DC/DC CONVERTER
BOOT CAP.L-5
BOOT CAP.H-5
OUTPUT BIAS-5
OUTPUT-6
BOOT CAP.L6
BOOT CAP.H6
OUTPUT BIAS-6
OVPS.6
COMP-6
NONINV INPUT-6
INV INPUT-6
FEED BACK-6
COMP
COMP-5
NONINV INPUT-5
INV INPUT-5
FEED BACK-5
COMP-4
INV INPUT-4
FEED BACK-4
RT
CT
SCP
MOS DUTY
GND
SOFT START
VREF
VCC
STANDBY-3
STANDBY
OTC-3
FEED BACK-3
BOOT CAP.H-2
OUTPUT BIAS-2
OUTPUT-2
BOOT CAP.L-1
BOOT CAP.H-1
MOS GATE
OUTPUT BIAS-1
COMP-1
INV INPUT-1
FEED BACK-1
COMP-2
INV INPUT-2
FEED BACK-2
OTC
INV INPUT-3
Q024, 025 EMERGENCY DETECT
Q024 XP4116-TXE
Q025 XP4116-TXE
Q026 XP4212-TXE LOGIC
Q027 2SK2037-TE85L
Q028 2SK2037-TE85L
SWITCH
LN0001 SHIELD
LN0002 SHIELD
LN0003 SHIELD
LN0004 SHIELD
LN0005 SHIELD
(OVP)
(IC001-COMP)
(BRUM-ERR)
IC002
SN104230PM
DC/DC CONVERTER
DRUM/CAPSTAN PWM DRIVE
①
②
(CT)
(STANDBY)
(IC002-COMP)
(CAP-ERR)


19
20
21
22
23
24
25
26
27
28
29
1-1CH
1-4CH
1-2CH
1-5CH
1-3CH
1-6CH
2-1CH
2-4CH
2-2CH
2-5CH
2-3CH
2-6CH
Q001, 002 REG
Q003, 004 REG
Q005, 007 CAM 88 SWITCH
Q009, 011, 012 SWITCH
Q010 UN9113-(TX) EMERGENCY DETECT
Q013 UN9213-(TX) INVERTER
Q014 2SA1729-RS-T8 SWITCHING
Q016, 017 REG
Q018, 019 REG
Q021 CAPSTAN PWM DRIVE
Q022 2SA1729-RS-T8 SWITCHING
Q023 DRUM PWM DRIVE
Q029 XP4401-TXE BUFFER
T001 8.5V
T002 4.3V
PS001 CCP2E10 0.4A
PS002 CCP2E10 0.4A
CN001 40P
1 SEIDEN GND
2 N.C
3 EVER 3.3V
4 EVER 3.3V
5 BATT/EXT
6 CHARGE
7 CHARGE REF
8 ACV6.5/8.4
9 VTR UNREG
10 GND
11 GND
12 GND
13 VTR 88 ON
14 CAM 88 ON
15 GND
16 IN81 3.0V
17 IN81 3.0V
18 GND
19 J1 3.0V
20 J1 3.0V
21 GND
22 J2 3.0V
23 J2 3.0V
24 J2 3.0V
25 GND
26 SS 5.0V
27 SS 5.0V
28 GND
29 AUDIO 5.0V
30 AUDIO 5.0V GND
31 AUDIO 3.3V
32 GND
33 AUDIO 3.0V
34 AUDIO 3.0V GND
35 SS 15V
36 GND
37 SS 3.3V
38 GND
39 LED 5.0V
40 GND
TO JC-15 BOARD (6/7) CN502 (SEE PAGE 4-12)
CN002 40P
1 EVF UNREG GND
2 EVF UNREG
3 GND
4 EVF 5V
5 GND
6 EVF 15V
7 GND
8 VIDEO 5V
9 GND
10 VIDEO 3.3V
11 GND
12 GND
13 VIDEO 3V
14 VIDEO 3V
15 GND
16 GND
17 MAGIC 3.3V
18 MAGIC 3.3V
19 CAM GND
20 CAM 3.3/3.6V
21 CAM 3.3/3.6V
22 CAM GND
23 CAM GND
24 CAM GND
25 CAM 8SV
26 CAM 8SV
27 CAM 5V
28 CAM 5V
29 CAM 5V
30 CCD GND
31 CCD GND
32 CCD -8.5V
33 CCD 15V
34 CCD 15V
35 VAP GND
36 VAP GND
37 VAP 5V
38 CAM MT 5V
39 CAM MT GND
40 CAM MT GND
TO CB-54 BOARD CN002 (SEE PAGE 4-54, 57, 59)
CN003 30P
1 SS 5.0V
2 SS 3.3V
3 GND
4 GND
5 RP 5.0V
6 RP 3.3V
7 GND
8 GND
9 RP 6.6V
10 RP 3.0V
11 RP 6.6V
12 GND
13 GND
14 MOTOR UNREG
15 GND
16 MOTOR UNREG
17 GND
18 MOTOR UNREG
19 GND
20 GND
21 DRUM VSC
22 CAP ERROR
23 GND
24 GND
25 GND
26 CAP VS
27 DRUM VS
28 CAP VS
29 DRUM VS
30 CAP VS
TO RS-73 BOARD (2/2) CN884 (SEE PAGE 4-71)

XL-1 (AUDIO INPUT), RJ-72 (AUDIO SELECT) SCHEMATIC DIAGRAMS

— Ref.No.XL-1, RJ-72 Boards;5000 Series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11
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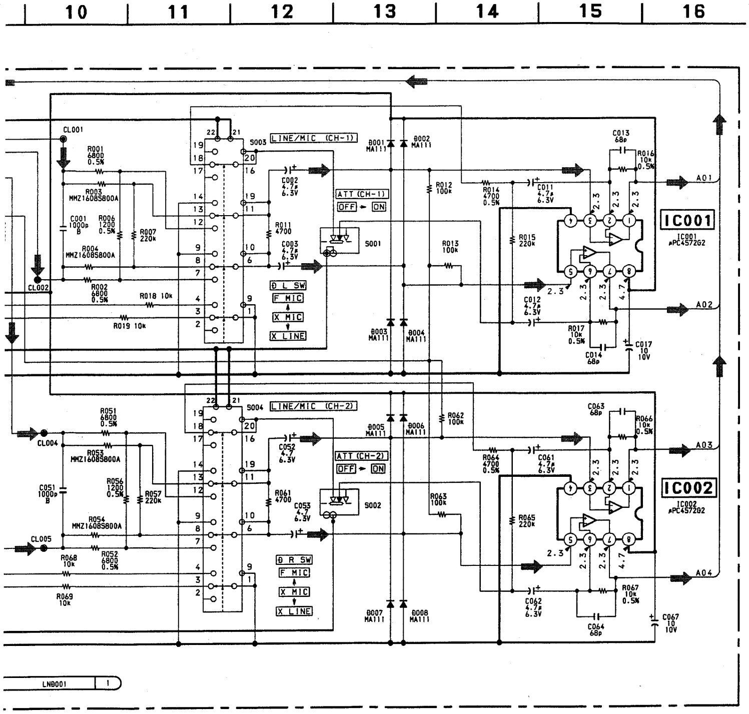
13
14
A
B
C
D
E
F
G
H
XL-1 BOARD
RJ-72 BOARD
CH-1 AUDIO IN
CH-2 AUDIO IN
VIDEO OUT
CN201
CN202
CN205 BNC SW JKP520
R212 MMZ1608S601A
R214 MMZ1608S601A
R224 MMZ1608S800A
R227 MMZ1608S800A
R213 MMZ1608S601A
R215 MMZ1608S601A
L201 220μ
L202 220μ
L203 220μ
L204 220μ
D208 MA3075WA
D202 MA3075WA
D203 MA3075WA
D204 MA3075WA
C201 1000p
C202 1000p
LND201 SEIDEN GND
LND202 SEIDEN GND
IC201
IC201 μPC4572G2 AUDIO AMP
IC202
IC202 NJM2107F VREF BUFFER
D205 MA3075WA-(TX)
D206 MA8082-M(TX)
D201 MA111
R217 470k
R216 0
C218 0.1 F
CN203 17P
1 1CH (X) IN
2 1CH (Y) IN
3 A GND
4 2CH (X) IN
5 2CH (Y) IN
6 A GND
7 V REF
8 1CH (X) OUT
9 1CH (Y) OUT
10 A GND
11 2CH (X) OUT
12 2CH (Y) OUT
13 AU5.0V
14 D L SEL1
15 D L SEL2
16 D R SEL1
17 D R SEL2
CN204
1 BNC ON/OFF
2 AU 5.0V
3 DL SEL1
4 DL SEL2
5 X L SIG
6 A GND
7 X R SIG
8 A GND
9 D R SEL1
10 D R SEL2
11 V GND
12 C VIDEO
TO AU-192 BOARD CN003
(SEE PAGE 4-88)
CN001 17P
CL001
CL002
CL003
CL004
CL005
S003 LINE/MIC (CH-1)
S004 LINE/MIC (CH-2)
ATT (CH-1) OFF ← ON
ATT (CH-2) OFF ← ON
S001
S002
D L SW
D R SW
F MIC
X MIC
X LINE
LND001
16

no mark : REC/PB mode
R : REC mode
P : PB mode

•SIGNAL PATH

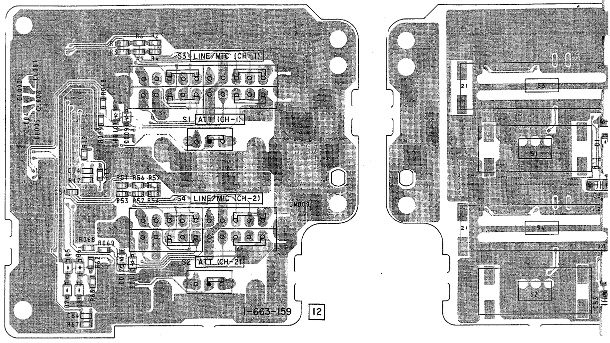
	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC				➡
PB			⇛	


10
11
12
13
14
15
16
CL001
CL002
CL004
CL005
R001 6800 0.5%
R002 6800 0.5%
R003 MMZ1608S800A
R004 MMZ1608S800A
C001 1000p B
R006 1200 0.5%
R007 220k
R018 10k
R019 10k
S003 LINE/MIC (CH-1)
S004 LINE/MIC (CH-2)
D001 MA111
D002 MA111
D003 MA111
D004 MA111
D005 MA111
D006 MA111
D007 MA111
D008 MA111
C002 4.7μ 6.3V
C003 4.7μ 6.3V
R011 4700
ATT (CH-1)
OFF → ON
S001
θ L SW
F MIC
X MIC
X LINE
R012 100k
R013 100k
R014 4700 0.5%
C011 4.7μ 6.3V
R015 220k
C012 4.7μ 6.3V
R017 10k 0.5%
C014 68p
C013 68p
R016 10k 0.5%
C017 10 10V
IC001
IC001 μPC4572G2
A01
A02
R051 6800 0.5%
R053 MMZ1608S800A
C051 1000p B
R056 1200 0.5%
R057 220k
R054 MMZ1608S800A
R052 6800 0.5%
R068 10k
R069 10k
C052 4.7 6.3V
R061 4700
C053 4.7 6.3V
ATT (CH-2)
OFF → ON
S002
θ R SW
F MIC
X MIC
X LINE
R062 100k
R063 100k
R064 4700 0.5%
C061 4.7μ 6.3V
R065 220k
C062 4.7μ 6.3V
C063 68p
R066 10k 0.5%
R067 10k 0.5%
C064 68p
C067 10 10V
IC002
IC002 μPC4572G2
A03
A04
2.3
4.7
LN8001
1

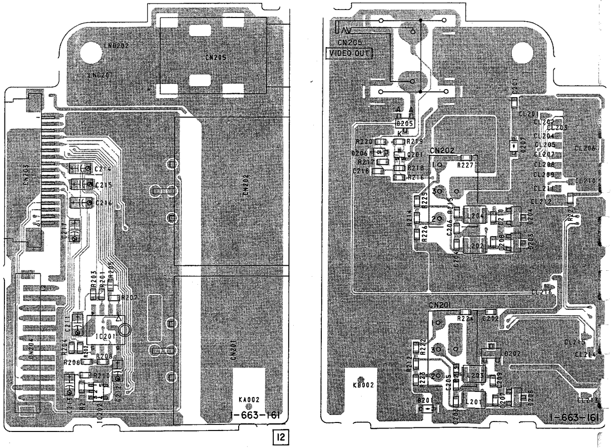
XL-1 (AUDIO INPUT), RJ-72 (AUDIO SELECT) PRINTED WIRING BOARDS

— Ref. No. XL-1, RJ-72 BoardS; 5,000 Series —

RJ-72 BOARD (SIDE A) RJ-72 BOARD (SIDE B)

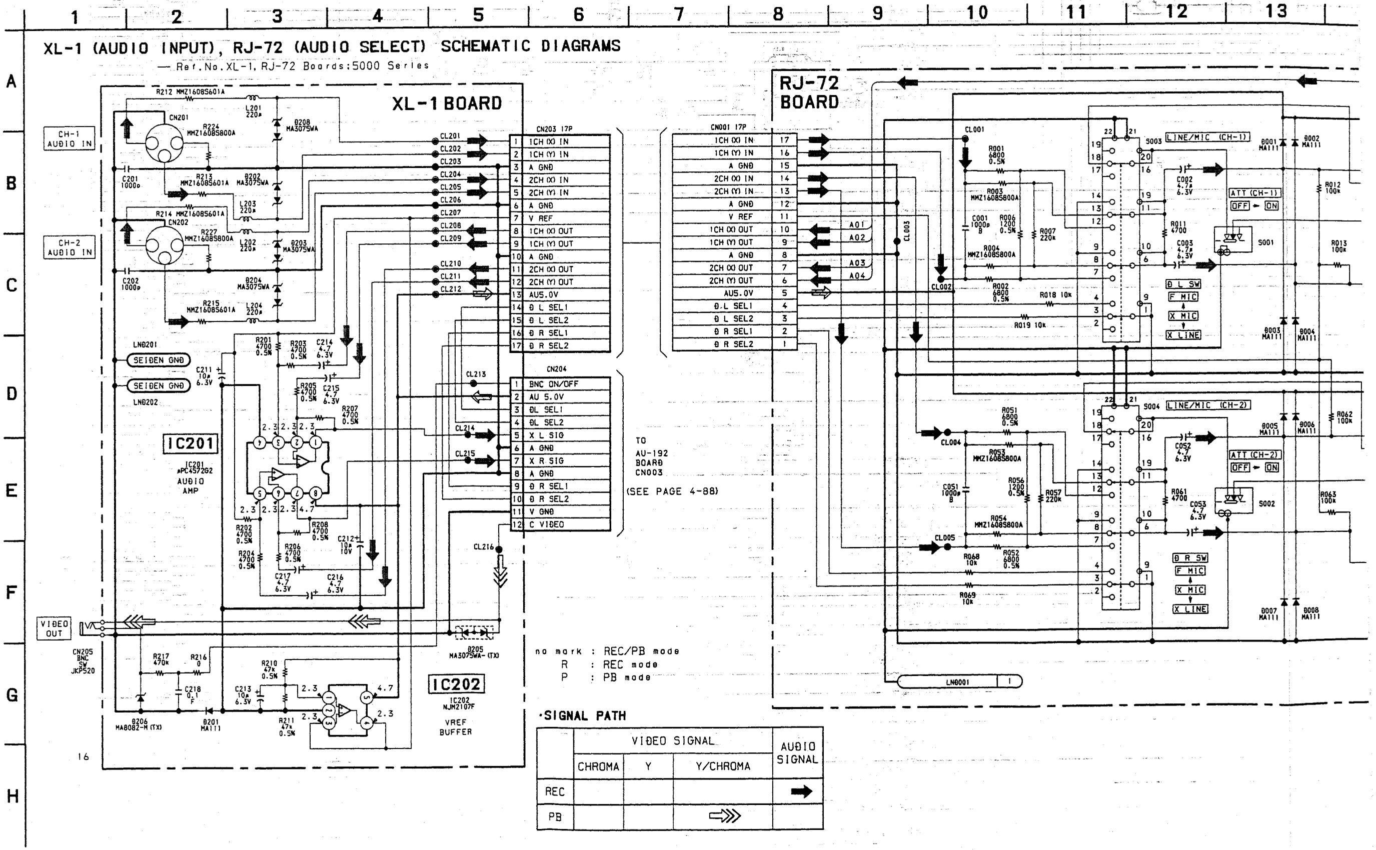

S3 LINE/MIC (CH-1)
S1 ATT (CH-1)
S4 LINE/MIC (CH-2)
S2 ATT (CH-2)
LN8001
1-663-159
12
S3
S1
S4
S2

XL-1 BOARD (SIDE A) XL-1 BOARD (SIDE B)


CN205
CN202
CN203
CN204
CN201
IC201
KA002
1-663-161
12
CN205 VIDEO OUT
KB002
CL216
1-663-161

XL-1 (AUDIO INPUT), RJ-72 (AUDIO SELECT) SCHEMATIC DIAGRAMS

— Ref. No. XL-1, RJ-72 Boards: 5000 Series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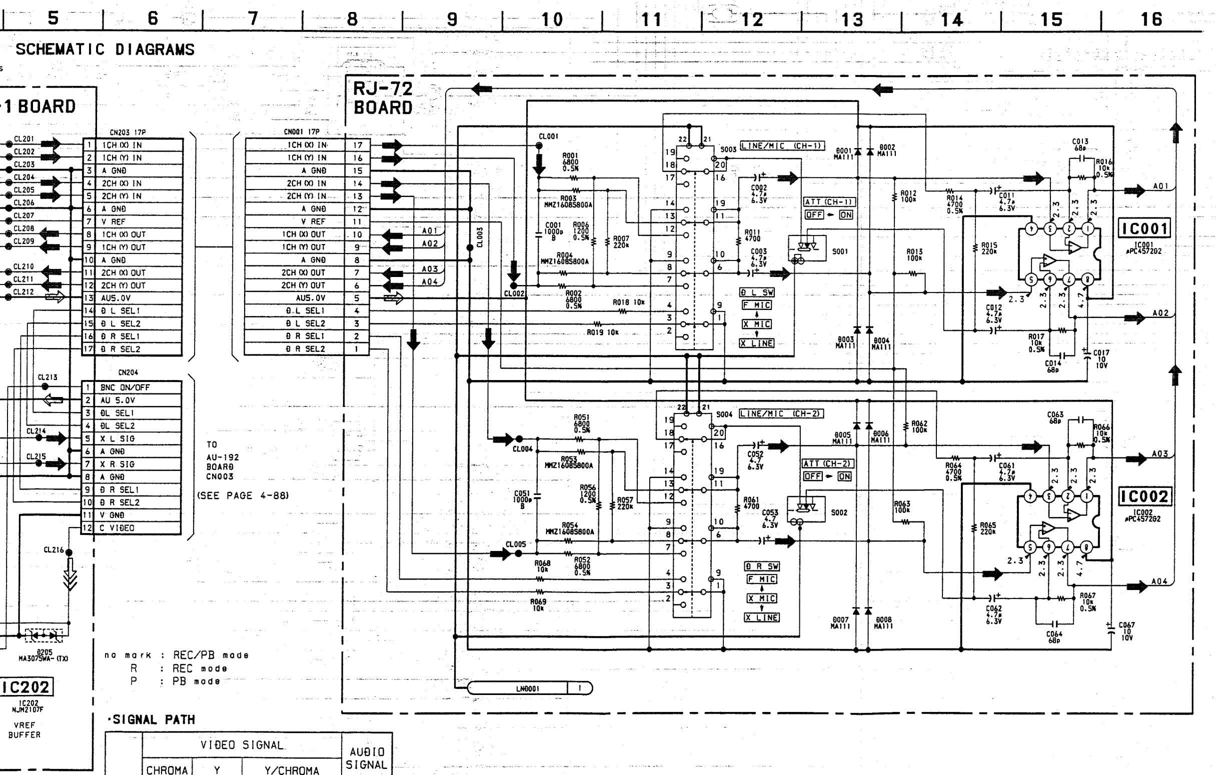
11
12
13
A
B
C
D
E
F
G
H
XL-1 BOARD
RJ-72 BOARD
CH-1 AUDIO IN
CH-2 AUDIO IN
CN201
CN202
R212 MMZ1608S601A
R224 MMZ1608S800A
R213 MMZ1608S601A
R214 MMZ1608S601A
R227 MMZ1608S800A
R215 MMZ1608S601A
L201 220μ
L202 220μ
L203 220μ
L204 220μ
D208 MA3075WA
D202 MA3075WA
D203 MA3075WA
D204 MA3075WA
C201 1000p
C202 1000p
CN203 17P
1 1CH (X) IN
2 1CH (Y) IN
3 A GND
4 2CH (X) IN
5 2CH (Y) IN
6 A GND
7 V REF
8 1CH (X) OUT
9 1CH (Y) OUT
10 A GND
11 2CH (X) OUT
12 2CH (Y) OUT
13 AU5.0V
14 θ L SEL1
15 θ L SEL2
16 θ R SEL1
17 θ R SEL2
CL201
CL202
CL203
CL204
CL205
CL206
CL207
CL208
CL209
CL210
CL211
CL212
CL213
CL214
CL215
CL216
CN204
1 BNC ON/OFF
2 AU 5.0V
3 θL SEL1
4 θL SEL2
5 X L SIG
6 A GND
7 X R SIG
8 A GND
9 θ R SEL1
10 θ R SEL2
11 V GND
12 C VIDEO
TO AU-192 BOARD CN003
(SEE PAGE 4-88)
LND201
LND202
SEIDEN GND
SEIDEN GND
C211 10μ 6.3V
R201 4700 0.5%
R203 4700 0.5%
C214 4.7 6.3V
R205 4700 0.5%
C215 4.7 6.3V
R207 4700 0.5%
IC201
IC201 μPC4572G2 AUDIO AMP
R202 4700 0.5%
R204 4700 0.5%
R206 4700 0.5%
R208 4700 0.5%
C212 10μ 10V
C217 4.7 6.3V
C216 4.7 6.3V
2.3
4.7
VIDEO OUT
CN205 BNC SW JKP520
R217 470k
R216 0
C218 0.1 F
D206 MA8082-M (TX)
D201 MA111
C213 10μ 6.3V
R210 47k 0.5%
R211 47k 0.5%
IC202
IC202 NJM2107F
VREF BUFFER
D205 MA3075WA-(TX)
16
CN001 17P
17 1CH (X) IN
16 1CH (Y) IN
15 A GND
14 2CH (X) IN
13 2CH (Y) IN
12 A GND
11 V REF
10 1CH (X) OUT
9 1CH (Y) OUT
8 A GND
7 2CH (X) OUT
6 2CH (Y) OUT
5 AU5.0V
4 θ.L SEL1
3 θ L SEL2
2 θ R SEL1
1 θ R SEL2
A01
A02
A03
A04
CL001
CL002
CL003
CL004
CL005
R001 6800 0.5%
R003 MMZ1608S800A
C001 1000p B
R006 1200 0.5%
R007 220k
R004 MMZ1608S800A
R002 6800 0.5%
R018 10k
R019 10k
S003 LINE/MIC (CH-1)
C002 4.7μ 6.3V
R011 4700
C003 4.7μ 6.3V
ATT (CH-1)
OFF ← ON
S001
θ L SW
F MIC
X MIC
X LINE
D001 MA111
D002 MA111
D003 MA111
D004 MA111
R012 100k
R013 100k
R051 6800 0.5%
R053 MMZ1608S800A
C051 1000p B
R056 1200 0.5%
R057 220k
R054 MMZ1608S800A
R068 10k
R052 6800 0.5%
R069 10k
S004 LINE/MIC (CH-2)
C052 4.7 6.3V
R061 4700
C053 4.7 6.3V
ATT (CH-2)
OFF ← ON
S002
θ R SW
F MIC
X MIC
X LINE
D005 MA111
D006 MA111
D007 MA111
D008 MA111
R062 100k
R063 100k
LND001

no mark : REC/PB mode
R : REC mode
P : PB mode

·SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC				➡
PB			⇨⟫	

SCHEMATIC DIAGRAMS

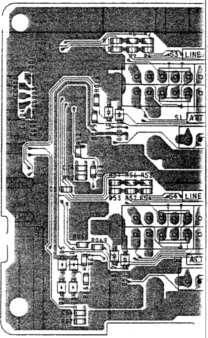

5
6
7
8
9
10
11
12
13
14
15
16
-1 BOARD
CN203 17P
1 1CH (X) IN
2 1CH (Y) IN
3 A GND
4 2CH (X) IN
5 2CH (Y) IN
6 A GND
7 V REF
8 1CH (X) OUT
9 1CH (Y) OUT
10 A GND
11 2CH (X) OUT
12 2CH (Y) OUT
13 AU5.0V
14 θ L SEL1
15 θ L SEL2
16 θ R SEL1
17 θ R SEL2
CL201
CL202
CL203
CL204
CL205
CL206
CL207
CL208
CL209
CL210
CL211
CL212
CN204
1 BNC ON/OFF
2 AU 5.0V
3 θL SEL1
4 θL SEL2
5 X L SIG
6 A GND
7 X R SIG
8 A GND
9 θ R SEL1
10 θ R SEL2
11 V GND
12 C VIDEO
CL213
CL214
CL215
CL216
D205
MA3075WA-(TX)
IC202
IC202
NJM2107F
VREF
BUFFER
TO
AU-192
BOARD
CN003
(SEE PAGE 4-88)
RJ-72
BOARD
CN001 17P
1CH (X) IN 17
1CH (Y) IN 16
A GND 15
2CH (X) IN 14
2CH (Y) IN 13
A GND 12
V REF 11
1CH (X) OUT 10
1CH (Y) OUT 9
A GND 8
2CH (X) OUT 7
2CH (Y) OUT 6
AU5.0V 5
θ.L SEL1 4
θ L SEL2 3
θ R SEL1 2
θ R SEL2 1
A01
A02
A03
A04
CL003
CL001
CL002
CL004
CL005
R001 6800 0.5%
R003 MMZ1608S800A
C001 1000p B
R006 1200 0.5%
R007 220k
R004 MMZ1608S800A
R002 6800 0.5%
R018 10k
R019 10k
S003 LINE/MIC (CH-1)
C002 4.7μ 6.3V
ATT (CH-1)
OFF → ON
R011 4700
C003 4.7μ 6.3V
S001
θ L SW
F MIC
X MIC
X LINE
D001 MA111
D002 MA111
D003 MA111
D004 MA111
R012 100k
R013 100k
R014 4700 0.5%
C011 4.7μ 6.3V
R015 220k
C012 4.7μ 6.3V
R017 10k 0.5%
C014 68p
C013 68p
R016 10k 0.5%
C017 10 10V
IC001
IC001
μPC4572G2
2.3
4.7
R051 6800 0.5%
R053 MMZ1608S800A
C051 1000p B
R056 1200 0.5%
R057 220k
R054 MMZ1608S800A
R052 6800 0.5%
R068 10k
R069 10k
S004 LINE/MIC (CH-2)
C052 4.7μ 6.3V
ATT (CH-2)
OFF → ON
R061 4700
C053 4.7μ 6.3V
S002
θ R SW
F MIC
X MIC
X LINE
D005 MA111
D006 MA111
D007 MA111
D008 MA111
R062 100k
R063 100k
R064 4700 0.5%
C061 4.7μ 6.3V
R065 220k
C062 4.7μ 6.3V
R067 10k 0.5%
C064 68p
C063 68p
R066 10k 0.5%
C067 10 10V
IC002
IC002
μPC4572G2
LN0001
1

no mark : REC/PB mode
R : REC mode
P : PB mode

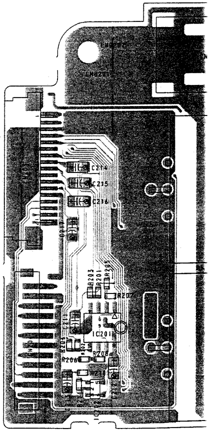
·SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC				➡
PB			⇨	

RJ-72 BOARD (SIDE A)


S3
LINE
SL
S4
LINE
S2
R54
R53
R52
R56

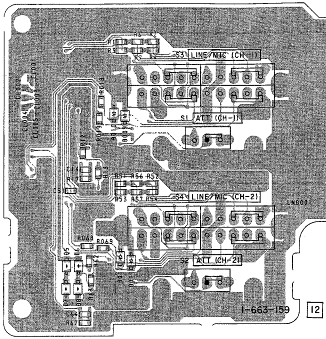
XL-1 BOA


C214
C215
C216
IC201
R203
R201
R202
R206

XL-1 (AUDIO INPUT), RJ-72 (AUDIO SELECT) PRINTED WIRING BOARDS

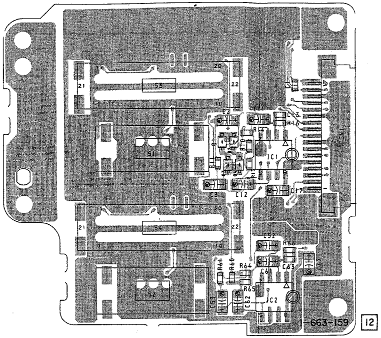
— Ref. No. XL-1, RJ-72 BoardS; 5,000 Series —

RJ-72 BOARD (SIDE A)



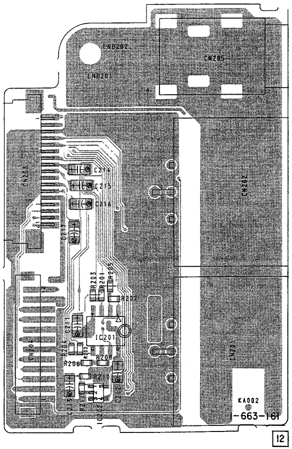
S3 LINE/MIC (CH-1)
S1 ATT (CH-1)
S4 LINE/MIC (CH-2)
S2 ATT (CH-2)
1-663-159
12

RJ-72 BOARD (SIDE B)



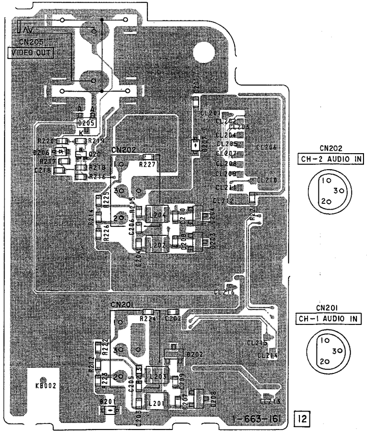
S3
S1
S4
S2
IC1
IC2
CN1
1-663-159
12

XL-1 BOARD (SIDE A)

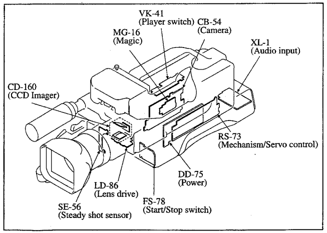


CN205
CN203
CN202
CN201
IC201
KA002
1-663-161
12

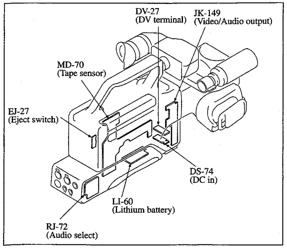
XL-1 BOARD (SIDE B)



AV
CN205
VIDEO OUT
CN202
CN201
KB002
1-663-161
12
CN202
CH-2 AUDIO IN
CN201
CH-1 AUDIO IN
1
2
3



VK-41
(Player switch)
CB-54
(Camera)
MG-16
(Magic)
XL-1
(Audio input)
CD-160
(CCD Imager)
RS-73
(Mechanism/Servo control)
DD-75
(Power)
LD-86
(Lens drive)
SE-56
(Steady shot sensor)
FS-78
(Start/Stop switch)



DV-27
(DV terminal)
JK-149
(Video/Audio output)
MD-70
(Tape sensor)
EJ-27
(Eject switch)
DS-74
(DC in)
LI-60
(Lithium battery)
RJ-72
(Audio select)

SECTION 6
ADJUSTMENTS

6-1. CAMERA SECTION ADJUSTMENT
1-1. PREPARATIONS BEFORE ADJUSTMENT

DSR-200 : NTSC model
DSR-200P : PAL model

1-1-1. List of service tools

- Oscilloscope
- Adjustment screw driver
- Regulated power supply
- Color monitor
- Vectorscope
- Digital voltmeter
- Pattern generator

Ref. No.	Name	Parts Code	Usage
J-1	Filter for color temperature correction (C14)	J-6080-058-A	Auto white balance adjustment/check White balance adjustment/check
J-2	ND filter 1.0 ND filter 0.3	J-6080-808-A J-6080-818-A	White balance check White balance check
J-3	Pattern box PTB-450	J-6082-200-A	Camera adjustment in general
J-4	Color chart for pattern box	J-6020-250-A	Camera adjustment in general
J-5	Siemens star chart	J-6080-875-A	For checking the flange back
J-6	Adjustment remote commander (RM-95 upgraded). Note	J-6082-053-B	Camera recorder adjustment in general
J-7	Clear chart	J-6080-621-A	GAIN, AUTO and white balance adjustments
J-8	Extension board (70P, 0.5 mm)	J-6082-321-A	For extension between CB-54 board (CN202) and JC-15 board (CN401) For extension between AU-192 board (CN915) and JC-15 board (CN403) For extension between AU-192 board (CN004) and JC-15 board (CN641)
J-9	Extension board (30P, 0.5 mm)	J-6082-320-A	For extension between DD-75 board (CN003) and RS-73 board (CN884)
J-10	Extension board (48P, 0.8 mm)	J-6082-177-A	For extension between MG-16 board (CN901) and CB-54 board (CN201)
J-11	Extension cable (42P, 0.8 mm)	J-6082-326-A	For extension between CD-160 board (CN201) and CB-54 board (CN003)
J-12	Extension cable (6P, 0.8 mm)	J-6082-241-A	For extension between AU-192 board (CN908) and VK-41 board (CN501)
J-13	Extension cable (30P, 0.5 mm)	J-6082-323-A	For extension between LD-86 board (CN304) and CB-54 board (CN001)
J-14	Extension cable (40P, 0.5 mm)	J-6082-324-A	For extension between JC-15 board (CN502) and DD-75 board (CN001) For extension between CB-54 board (CN002) and DD-75 board (CN002)
J-15	External power adapter	J-6082-325-A	For connection of external DC power supply
J-16	Extension cable (24P, 0.5 mm)	J-6082-270-A	For extension between AU-192 board (CN914) and CB-54 board (CN290)
J-17	CPC jig 2 (14P)	J-6082-140-A	For video block adjustment and view finder adjustment
J-18	Extension cable (13P, 0.8 mm)	J-6082-376-A	For extension between JK-149 board (CN202) and AU-192 board (CN002) For extension between GP-14 board (CN701) and AU-192 board (CN907)
J-19	Extension cable (15P, 0.8 mm)	J-6082-377-A	For extension between JK-149 board (CN201) and JC-15 board (CN643)
J-20	Extension cable (34P, 0.5 mm)	J-6082-375-A	For extension between RS-73 board (CN773) and AU-192 board (CN917) For extension between RS-73 board (CN772) and AU-192 board (CN916)

Note : If the microprocessor IC in the adjusting remote commander is not the new microprocessor (UPD7503G-C56-12), the pages cannot be switched.
In this case, replace with the new microprocessor (8-759-148-35).

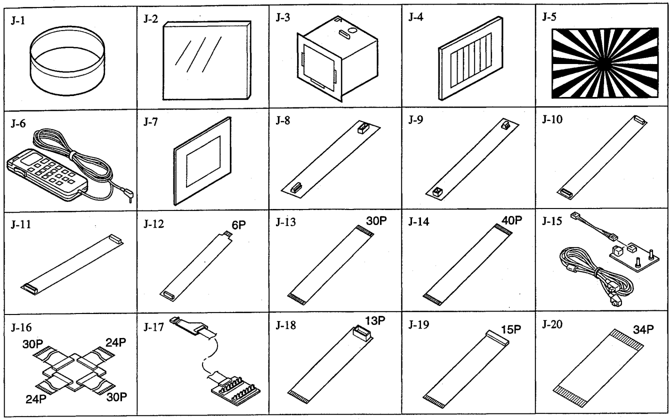
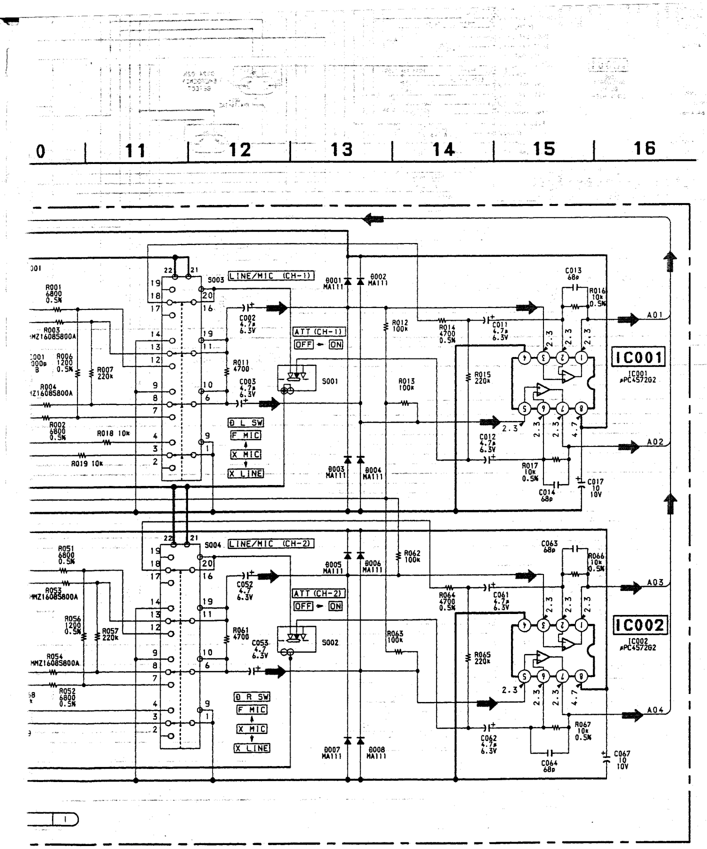
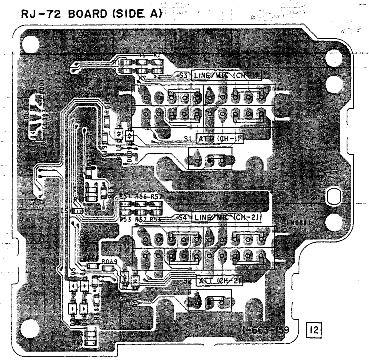


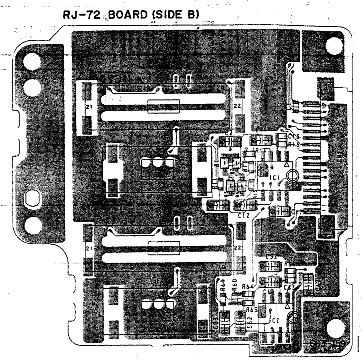
Fig. 6-1-1

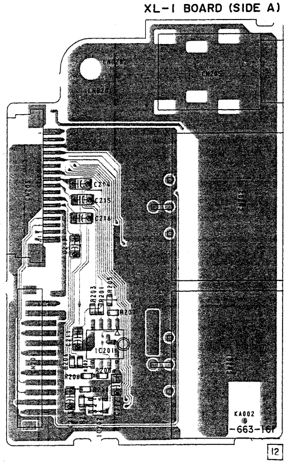

0
11
12
13
14
15
16
R001 6800 0.5%
R003 MMZ1608S800A
R006 1200 0.5%
R007 220k
R004 MMZ1608S800A
R002 6800 0.5%
R018 10k
R019 10k
S003
LINE/MIC (CH-1)
C002 4.7μ 6.3V
ATT (CH-1)
OFF ← ON
R011 4700
C003 4.7μ 6.3V
S001
θ L SW
F MIC
X MIC
X LINE
D001 MA111
D002 MA111
D003 MA111
D004 MA111
R012 100k
R013 100k
R014 4700 0.5%
C011 4.7μ 6.3V
R015 220k
C012 4.7μ 6.3V
C013 68p
R016 10k 0.5%
R017 10k 0.5%
C014 68p
C017 10 10V
IC001
IC001 μPC4572G2
A01
A02
R051 6800 0.5%
R053 MMZ1608S800A
R056 1200 0.5%
R057 220k
R054 MMZ1608S800A
R052 6800 0.5%
S004
LINE/MIC (CH-2)
C052 4.7 6.3V
ATT (CH-2)
OFF ← ON
R061 4700
C053 4.7 6.3V
S002
θ R SW
F MIC
X MIC
X LINE
D005 MA111
D006 MA111
D007 MA111
D008 MA111
R062 100k
R063 100k
R064 4700 0.5%
C061 4.7μ 6.3V
R065 220k
C062 4.7μ 6.3V
C063 68p
R066 10k 0.5%
R067 10k 0.5%
C064 68p
C067 10 10V
IC002
IC002 μPC4572G2
A03
A04
2.3
4.7

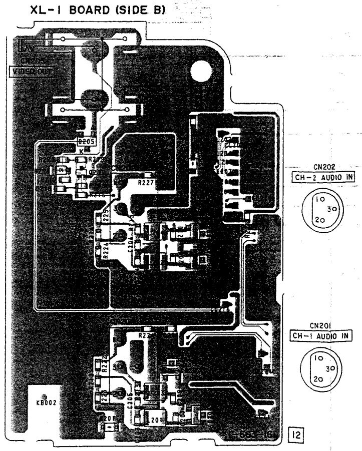
XL-1 (AUDIO INPUT), RJ-72 (AUDIO SELECT) PRINTED WIRING BOARDS

— Ref. No. XL-1, RJ-72 BoardS; 5,000 Series —


RJ-72 BOARD (SIDE A)
S3 LINE/MIC (CH-1)
S1 ATT (CH-1)
S4 LINE/MIC (CH-2)
S2 ATT (CH-2)
1-663-159
12


RJ-72 BOARD (SIDE B)
IC1
C12
IC2
R64
R65
1-663-159


XL-I BOARD (SIDE A)
C214
C215
C216
IC201
KA002
1-663-161
12

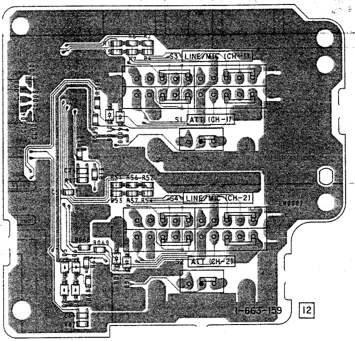

XL-I BOARD (SIDE B)
VIDEO OUT
D205
R227
R226
KB002
CN202
CH-2 AUDIO IN
CN201
CH-1 AUDIO IN
1-663-161
12

XL-1 (AUDIO INPUT), RJ-72 (AUDIO SELECT) PRINTED WIRING BOARDS

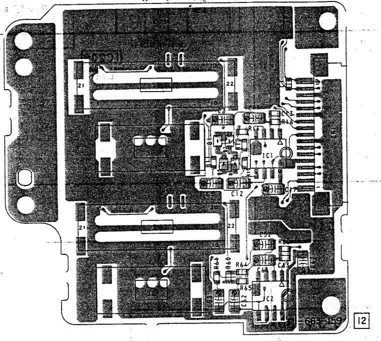
— Ref. No. XL-1, RJ-72 BoardS; 5,000 Series —

A01
01
A02
A03
02
A04

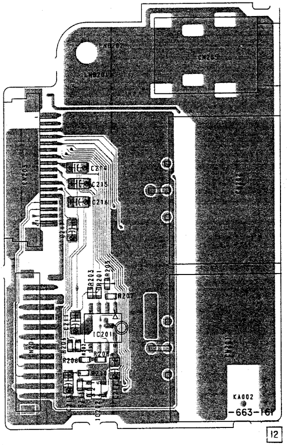
RJ-72 BOARD (SIDE A)


S3 LINE/MIC (CH-1)
S1 ATT (CH-1)
S4 LINE/MIC (CH-2)
S2 ATT (CH-2)
CN8001
R049
1-663-159
12

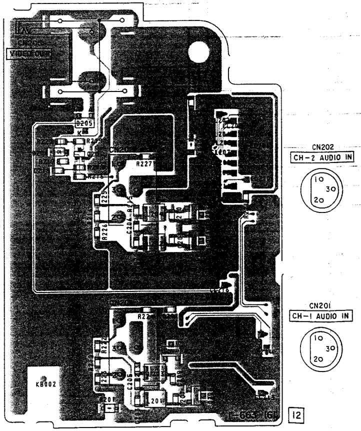
RJ-72 BOARD (SIDE B)

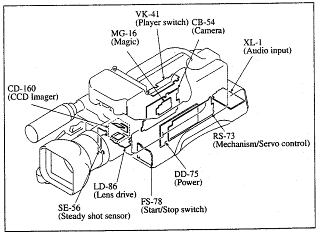

IC1
C12
IC2
R64
R60
R65
C43
663-159
12

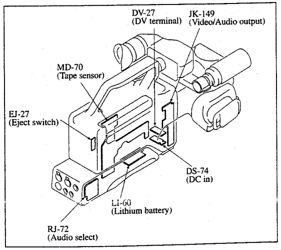
XL-1 BOARD (SIDE A)


CN205
C214
C215
C216
R203
R201
R207
IC201
KA002
-663-161
12

XL-1 BOARD (SIDE B)


VIDEO OUT
D205
R227
C204
C206
R22
KB002
-663-161
12
CN202
CH-2 AUDIO IN
CN201
CH-1 AUDIO IN
10
20
30


VK-41
(Player switch)
CB-54
(Camera)
MG-16
(Magic)
XL-1
(Audio input)
CD-160
(CCD Imager)
RS-73
(Mechanism/Servo control)
DD-75
(Power)
LD-86
(Lens drive)
FS-78
(Start/Stop switch)
SE-56
(Steady shot sensor)


DV-27
(DV terminal)
JK-149
(Video/Audio output)
MD-70
(Tape sensor)
EJ-27
(Eject switch)
DS-74
(DC in)
LI-60
(Lithium battery)
RJ-72
(Audio select)

SECTION 5
REPAIR PARTS LIST

5-1. EXPLODED VIEWS

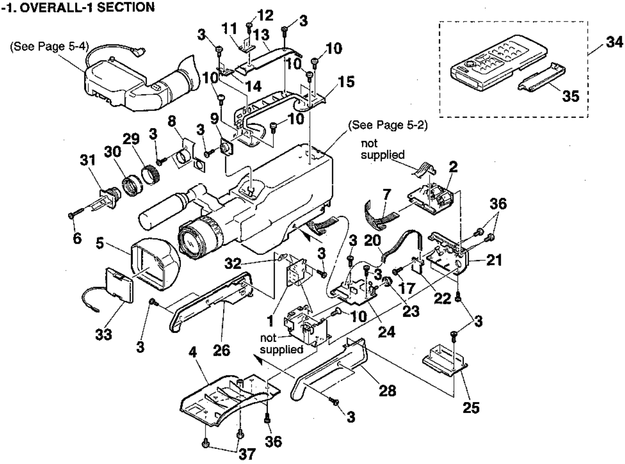
NOTE:

- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

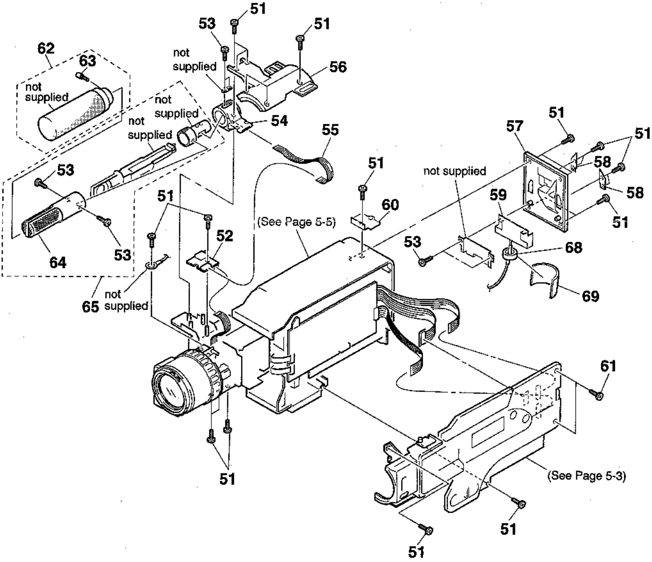
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

5-1-1. OVERALL-1 SECTION



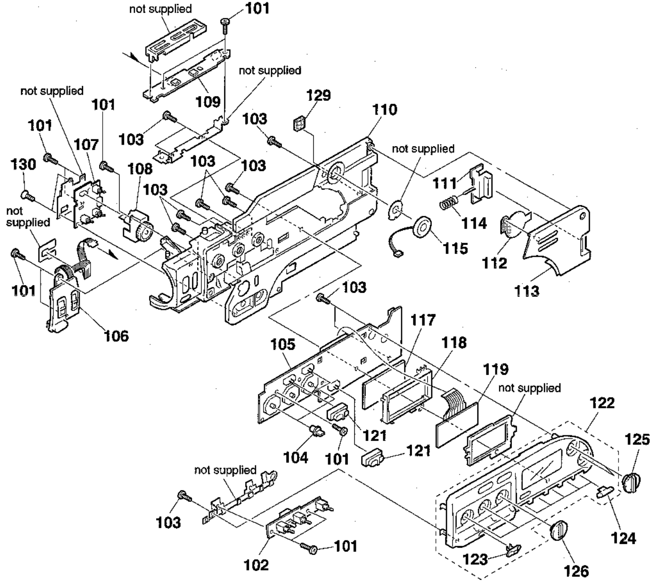
Ref. No.	Part No.	Description	Remarks
1	A-7072-953-A	RJ-72 BOARD, COMPLETE	
2	A-7072-954-A	XL-1 BOARD, COMPLETE	
3	3-964-010-21	SCREW (M2X5)	
4	3-974-266-01	CUSHION (L), PAD	
5	X-3945-078-1	HOOD ASSY, LENS	
6	7-682-655-09	SCREW +PS 3X30	
7	1-777-511-11	CABLE, FLEXIBLE FLAT (FRX-3)	
8	3-973-011-11	COVER, VF	
9	A-7072-901-A	VF-105 BOARD, COMPLETE	
10	3-974-013-01	SCREW (+B 3X6), BIND	
11	3-724-511-02	SHOE, ACCESSORY	
12	3-948-809-01	SCREW (M2X6)	
13	3-973-010-01	COVER, HANDLE	
14	3-963-951-01	BRACKET, HANDLE STRAP	
15	3-973-003-11	HANDLE	
17	3-719-601-01	SCREW (B2X5), TAPPING	
20	1-777-505-11	CABLE, FLEXIBLE FLAT (FLS-2) 6P	
21	X-3946-915-1	COVER ASSY, PAD TERMINAL	
22	A-7072-905-A	RT-21 BOARD, COMPLETE	
23	3-972-978-01	VOLUME, HEADPHONE	
24	A-7072-955-A	LH-10 BOARD, COMPLETE	
25	3-974-265-01	COVER (L), PAD (UPPER)	
26	3-974-263-01	COVER (L), PAD (RIGHT)	
28	3-974-264-01	COVER (L), PAD (LEFT)	
* 29	3-720-919-01	RUBBER, LOCK RING	
* 30	3-679-543-11	RING(D), LOCK	
31	3-686-261-03	SHOE3, SLIDE, VF	
32	3-974-273-01	SWITCH (L), MICROPHONE SELECT	
33	X-3946-655-1	CAP ASSY, HOOD	
34	8-917-569-90	REMOTE COMMANDER RMT-806 SET (DSR-200)	
34	8-917-570-90	REMOTE COMMANDER RMT-807 SET (DSR-200P)	
35	3-742-854-21	COVER, BATTERY	
36	7-621-284-10	SCREW +P2.6X5	
37	7-682-159-09	SCREW +B4X5	

5-1-2. OVERALL-2 SECTION


51
53
51
62
63
not supplied
56
not supplied
not supplied
not supplied
not supplied
54
55
51
57
51
58
53
51
not supplied
58
51
60
59
51
52
(See Page 5-5)
53
68
64
53
69
not supplied
65 supplied
61
51
(See Page 5-3)
51
51

Ref. No.	Part No.	Description	Remarks
51	3-964-010-21	SCREW (M2X5)	
52	A-7072-890-A	EM-10 BOARD, COMPLETE	
53	3-719-601-01	SCREW (B2X5), TAPPING	
54	3-974-005-04	HOLDER, MICROPHONE	
55	1-777-508-11	CABLE, FLEXIBLE FLAT (FMM-16) 8P	
56	X-3946-913-1	CABINET ASSY, FRONT UPPER	
57	X-3946-657-1	BRACKET ASSY, BATTERY	
58	3-972-981-01	REINFORCEMENT, BT	
59	1-537-833-31	TERMINAL BOARD, BATTERY	
60	3-972-954-01	BRACKET, STRAP	
61	3-974-013-01	SCREW (+B 3X6), BIND	
62	X-2542-136-1	SCREEN ASSY, WINDOW	
* 63	2-539-441-01	SCREW, FASTENING	
64	X-2542-135-1	MIC GRIL ASSY	
65	8-814-287-00	MICROPHONE, BUILT-IN C2037	
68	1-759-071-11	FERRITE CORE	
69	3-975-044-01	CORE RING CUSHION	

5-1-3. CABINET (R) SECTION


not supplied
101
not supplied
not supplied
101
109
129
110
101
107
103
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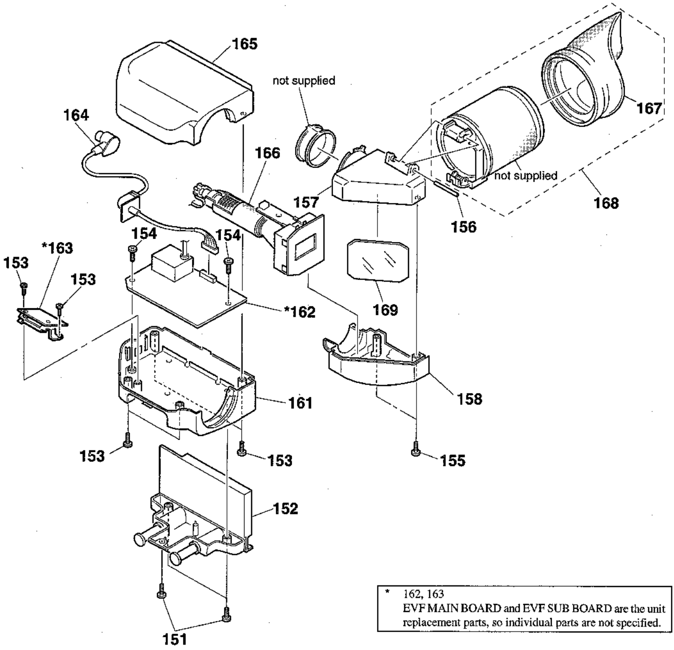
Ref. No.	Part No.	Description	Remarks
101	7-627-553-47	SCREW, PRECISION (+P2X4)	
102	A-7072-898-A	AM-38 BOARD, COMPLETE (DSR-200)	
102	A-7072-973-A	AM-38 BOARD, COMPLETE (DSR-200P)	
103	3-719-408-11	SCREW (B2X6), TAPPING, P3	
104	3-973-043-01	BASE, KNOB	
105	A-7072-951-A	FK-68 BOARD, COMPLETE (DSR-200)	
* 105	A-7073-007-A	FK-68P BOARD, COMPLETE (DSR-200P)	
106	1-473-866-11	SWITCH BLOCK, CONTROL (FI4520)	
107	A-7072-899-A	SW-286 BOARD, COMPLETE (DSR-200)	
107	A-7072-978-A	SW-286 BOARD, COMPLETE (DSR-200P)	
108	1-762-821-11	SWITCH, ROTARY (ENCODER)	
109	A-7072-897-A	ED-44 BOARD, COMPLETE (DSR-200)	
109	A-7072-972-A	ED-44 BOARD, COMPLETE (DSR-200P)	
110	3-973-038-21	CABINET (R)	
111	3-973-036-11	KNOB, BAT RELEASE	
112	3-973-041-01	SHEET, SP	
113	3-973-035-11	PAD, R	
114	3-426-508-00	SPRING, COMPRESSION	
115	1-504-753-11	SPEAKER (2.8CM)	
117	3-973-047-01	ILLUMINATOR	
118	3-973-048-01	HOLDER, LCD	
119	1-801-515-21	DISPLAY PANEL, LIQUID CRYSTAL	
121	3-972-959-01	KNOB, PANEL	
122	X-3946-918-1	PANEL ASSY, CONTROL (DSR-200)	
122	X-3947-098-1	PANEL ASSY, CONTROL (DSR-200P)	
123	3-972-958-01	KNOB, AUTO LOCK	
124	3-972-960-01	KNOB, EDGE	
125	3-973-046-01	KNOB, VOL	
126	3-973-042-01	KNOB, ROTARY	
* 129	3-974-595-01	CUSHION, SP REAR	
130	3-975-113-01	SCREW (M2X4)	

5-1-4. EVF SECTION

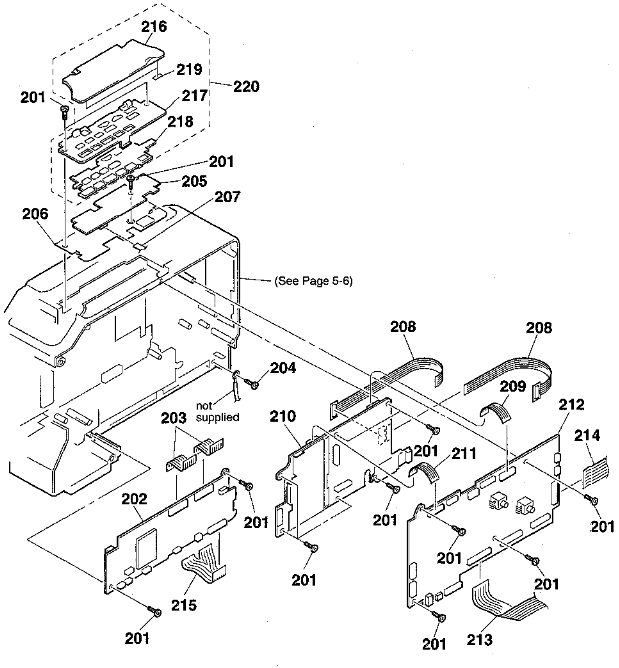


* 162, 163
EVF MAIN BOARD and EVF SUB BOARD are the unit replacement parts, so individual parts are not specified.

Ref. No.	Part No.	Description	Remarks
151	3-974-013-01	SCREW (+B 3X6), BIND	
152	A-7093-031-A	EVF SLIDE PLATE ASSY	
153	7-685-134-19	SCREW 2.6X8	
154	7-685-531-19	SCREW 2.6X4	
155	7-685-105-19	SCREW +P 2X8	
156	3-709-190-01	PIN	
157	3-709-186-01	HOLDER (T) ASSY, OUT SIDE	
158	3-709-187-01	HOLDER (B), OUT SIDE	
161	3-709-185-01	CASE ASSY, BOTTOM	
⚠162	1-589-946-11	EVF, MAIN BOARD (DSR-200)	
⚠162	1-589-946-21	EVF, MAIN BOARD (DSR-200P)	
163	1-589-945-11	EVF, SUB BOARD	
⚠164	3-709-174-01	CABLE, VF	
165	3-709-189-01	CASE ASSY (L), TOP	
⚠166	3-709-173-01	CRT ASSY	
167	3-709-164-01	CUP, EYE	
168	3-709-188-01	LENS ASSY	
169	3-709-170-01	MIRROR	

Note :	Note :
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

5-1-5. MAIN BOARD SECTION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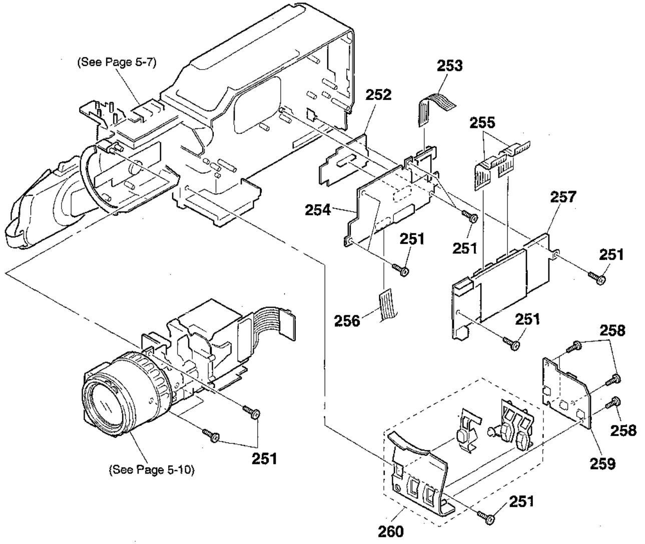
Ref. No.	Part No.	Description	Remarks
201	3-964-010-21	SCREW (M2X5)	
202	A-7066-916-A	RS-73 BOARD, COMPLETE	
203	1-777-495-11	CABLE, FLEXIBLE FLAT (FRA-1) 34P	
204	3-974-013-01	SCREW (+B 3X6), BIND	
205	A-7072-900-A	VK-41P BOARD, COMPLETE (DSR-200P)	
205	A-7072-952-A	VK-41 BOARD, COMPLETE (DSR-200)	
206	X-3946-662-1	SHEET METAL ASSY, VK	
207	1-777-502-11	CABLE, FLEXIBLE FLAT (FAV-1) 6P	
208	1-663-133-11	FP-460 FLEXIBLE BOARD	
209	1-777-496-11	CABLE, FLEXIBLE FLAT (FJA-1) 15P	
210	A-7066-915-A	JC-15 BOARD, COMPLETE (DSR-200)	
* 210	A-7066-934-A	JC-15P BOARD, COMPLETE (DSR-200P)	
211	1-777-497-11	CABLE, FLEXIBLE FLAT (FJA-2) 28P	
212	A-7066-917-A	AU-192 BOARD, COMPLETE (DSR-200)	
* 212	A-7066-935-A	AU-192P BOARD, COMPLETE (DSR-200P)	
213	1-777-500-11	CABLE, FLEXIBLE FLAT (FAL-1) 20P	
214	1-777-504-11	CABLE, FLEXIBLE FLAT (FAF-2) 40P	
215	1-663-134-11	FP-461 FLEXIBLE BOARD	
216	3-973-022-11	LID, VK	
217	3-973-021-21	FRAME, VK	
218	3-973-023-11	BUTTON, VK	
219	3-973-024-01	CUSHION, VK	
220	X-3946-917-1	VK ASSY	

5-1-6. POWER BOARD SECTION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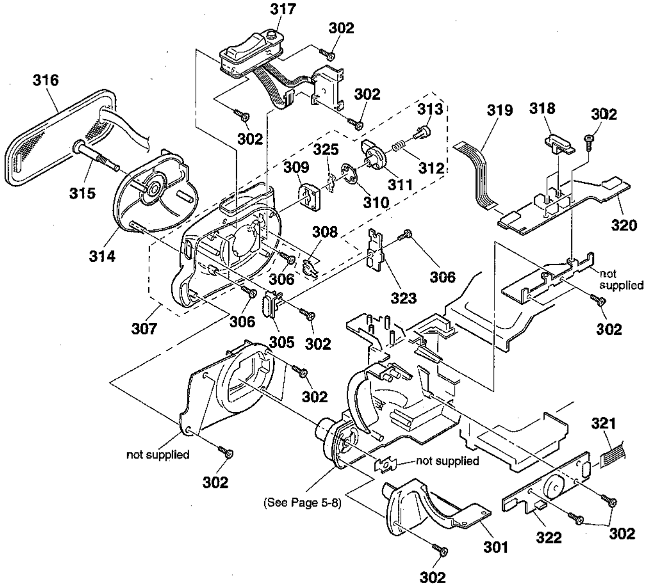
Ref. No.	Part No.	Description	Remarks
251	3-964-010-21	SCREW (M2X5)	
252	A-7072-219-A	MG-16 BOARD, COMPLETE	
253	1-777-498-11	CABLE, FLEXIBLE FLAT (FCA-4) 24P	
254	A-7066-869-A	CB-54P BOARD, COMPLETE (DSR-200P)	
254	A-7066-899-A	CB-54 BOARD, COMPLETE (DSR-200)	
255	1-656-386-11	FP-199 FLEXIBLE BOARD	
256	1-777-510-11	CABLE, FLEXIBLE FLAT (FCL-2) 30P	
257	A-7066-434-A	DD-75 BOARD, COMPLETE (DSR-200)	
257	A-7066-612-A	DD-75P BOARD, COMPLETE (DSR-200P)	
258	3-719-601-01	SCREW (B2X5), TAPPING	
259	A-7072-902-A	FS-78 BOARD, COMPLETE	
260	X-3946-916-1	CABINET ASSY, FRONT LOWER	

5-1-7. GRIP SECTION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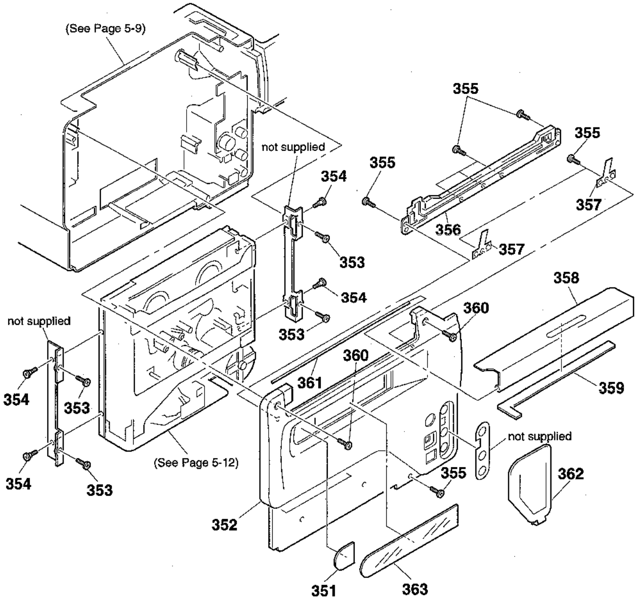
Ref. No.	Part No.	Description	Remarks
301	3-972-980-11	CABINET, GP ARM	
302	3-964-010-21	SCREW (M2X5)	
305	3-972-987-01	WINDOW, REMOTE CONTROL	
306	3-719-601-01	SCREW (B2X5), TAPPING	
307	X-3946-914-1	GRIP (MAIN) ASSY	
308	3-963-956-01	HOLDER, STAND-BY	
309	3-974-597-01	BASE, STAND-BY KNOB	
310	3-970-854-01	SPRING	
311	3-963-966-01	KNOB, STAND-BY	
312	3-578-221-00	SPRING, COMPRESSION	
313	3-963-954-02	BUTTON, S/S	
314	3-972-984-01	PAD, GRIP	
315	3-972-968-01	SCREW, FIXED	
316	3-972-986-01	BELT, GRIP	
317	1-473-867-21	SWITCH BLOCK, CONTROL (ZK4520)	
318	3-972-966-01	KNOB, MICROPHONE	
319	1-777-507-11	CABLE, FLEXIBLE FLAT (FME-1) 12P	
320	A-7072-889-A	MA-280 BOARD, COMPLETE	
321	1-777-501-11	CABLE, FLEXIBLE FLAT (FAG-1) 13P	
322	A-7072-891-A	GP-14 BOARD, COMPLETE	
323	A-7072-895-A	HR-11 BOARD, COMPLETE (DSR-200)	
323	A-7072-976-A	HR-11 BOARD, COMPLETE (DSR-200P)	
325	3-974-596-01	SHEET METAL, SS	

5-1-8. CABINET (L) SECTION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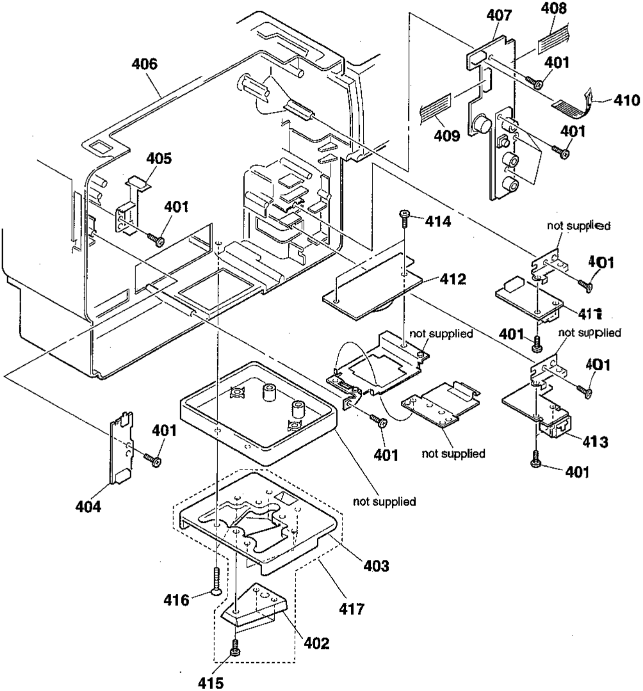
Ref. No.	Part No.	Description	Remarks
351	3-973-034-01	SHEET,CASSETTE WINDOW ADHESIVE	
352	3-973-025-21	CABINET (L)	
353	3-974-010-01	SCREW (M3X4), STEP	
354	3-973-266-01	SCREW (M2X2.2 (MEK)), HEAD	
355	7-627-853-47	SCREW (M2X4)	
356	3-973-029-11	FRAME, CASSETTE LID	
357	3-973-030-01	SPRING, CS LEAF	
358	3-973-028-11	LID, CASSETTE	
359	3-973-032-01	CUSHION, CS	
360	3-974-013-01	SCREW (+B 3X6), BIND	
361	3-973-031-01	SHAFT, CS	
362	3-972-951-11	COVER (L), JACK	
363	3-973-033-01	WINDOW, CASSETTE	

5-1-9. MAIN FRAME SECTION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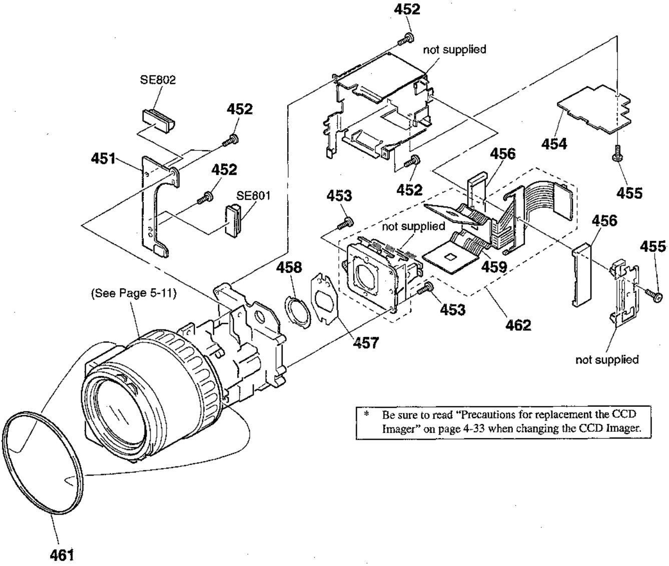
Ref. No.	Part No.	Description	Remarks
401	3-964-010-21	SCREW (M2X5)	
* 402	3-716-391-01	WEDGE, MOUNTING	
403	3-729-065-04	SHOE (A), CAMERA	
404	A-7072-974-A	EJ-27 BOARD, COMPLETE	
405	3-972-964-01	BUTTON, EJ (DSR-200P)	
405	3-972-964-02	BUTTON, EJ (DSR-200)	
406	3-972-962-21	FRAME, MAIN	
407	A-7072-949-A	JK-149 BOARD, COMPLETE (DSR-200)	
* 407	A-7073-006-A	JK-149P BOARD, COMPLETE (DSR-200P)	
408	1-777-501-11	CABLE, FLEXIBLE FLAT (FAG-1) 13P	
409	1-777-499-11	CABLE, FLEXIBLE FLAT (FJJ-1) 15P	
410	1-777-509-11	CABLE, FLEXIBLE FLAT (FMJ-2) 10P	
411	A-7072-894-A	DV-27 BOARD, COMPLETE	
412	A-7072-892-A	LI-60 BOARD, COMPLETE	
413	A-7072-893-A	DS-74P BOARD, COMPLETE (DSR-200P)	
413	A-7072-950-A	DS-74 BOARD, COMPLETE (DSR-200)	
414	7-627-853-37	PRECSION SCREW +P 2X4 TIPE 2	
415	7-682-560-09	SCREW +P 4X6	
416	7-682-266-09	SCREW (+K4X20)	
417	A-7612-352-E	SHOE (A) ASSY, V	

5-1-10. CCD BOARD SECTION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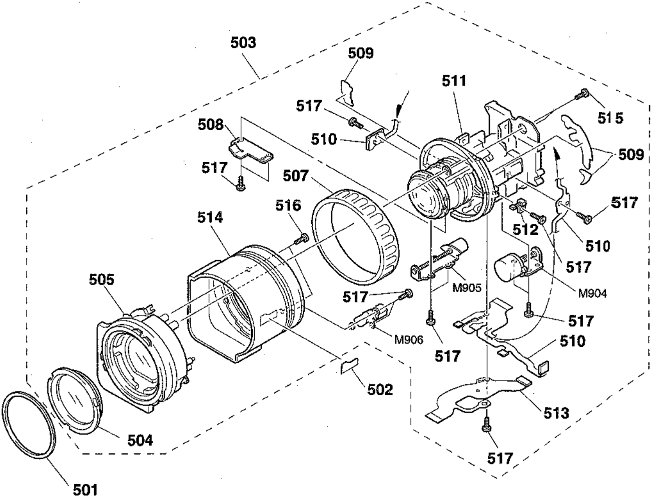
* Be sure to read "Precautions for replacement the CCD Imager" on page 4-33 when changing the CCD Imager.

Ref. No.	Part No.	Description	Remarks
451	A-7072-886-A	SE-56 BOARD, COMPLETE (DSR-200)	
451	A-7072-977-A	SE-56 BOARD, COMPLETE (DSR-200P)	
452	3-719-601-01	SCREW (B2X5), TAPPING	
453	3-947-268-11	TITE (2), +B TAPPING (P)	
454	A-7072-885-A	LD-86 BOARD, COMPLETE	
455	3-964-010-21	SCREW (M2X5)	
456	1-500-397-11	CORE, FERRITE	
457	3-963-809-01	PLATE, LIGHT INTERCEPTION	
458	3-963-810-01	RUBBER (M), SEAL	
459	A-7072-884-A	CD-160 BOARD, COMPLETE (DSR-200P)	
459	A-7073-008-A	CD-160 BOARD, COMPLETE (DSR-200)	
461	3-974-338-01	BELT, VIBRATION PROOF	
462	A-7030-693-A	CCD (GN), PRISM (CCD IMAGER included) (DSR-200)	
462	A-7030-697-A	CCD (GP), PRISM (CCD IMAGER included) (DSR-200P)	
SE801	1-810-725-71	SENSOR, ANGULAR VELOCITY (YAW)	
SE802	1-810-725-81	SENSOR, ANGULAR VELOCITY (PITCH)	

5-1-11. ZOOM LENS SECTION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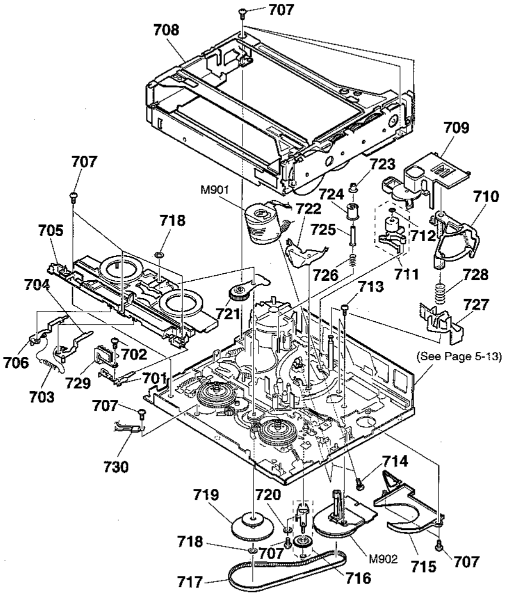
Ref. No.	Part No.	Description	Remarks
501	3-964-032-01	LABEL, LENS	
502	3-963-933-01	EMBLEM, CCD	
503	1-547-795-31	ZOOM LENS (VCL-5910WA)	
504	3-709-011-01	RING ASSY, PROTECTION GLASS	
505	3-709-010-01	VAP ASSY	
507	3-709-152-01	RUBBER, MF	
508	3-709-021-01	SHEET METAL, FITTING	
509	3-709-043-01	SHEET, REFUSE PREVENTION	
510	3-709-153-01	FLEXIBLE, MAIN	
511	3-709-016-01	LENS ASSY, ZOOM	
512	3-709-019-01	SW, LEAF	
513	3-709-015-01	FLEXIBLE, VAP	
514	3-709-156-01	TUBE, MIRROR, VAP	
515	3-708-795-01	SCREW (+P2.0X7.0)	
516	3-708-450-01	SCREW (+P1.7X5.5)	
517	3-707-946-01	SCREW (+P1.7X4.5)	
M904	3-709-155-01	MOTOR, FOCUS	
M905	3-709-154-01	MOTOR, ZOOM	
M906	3-709-014-01	MOTOR UNIT, VAP LOCK	

5-1-12. CASSETTE COMPARTMENT BLOCK SECTION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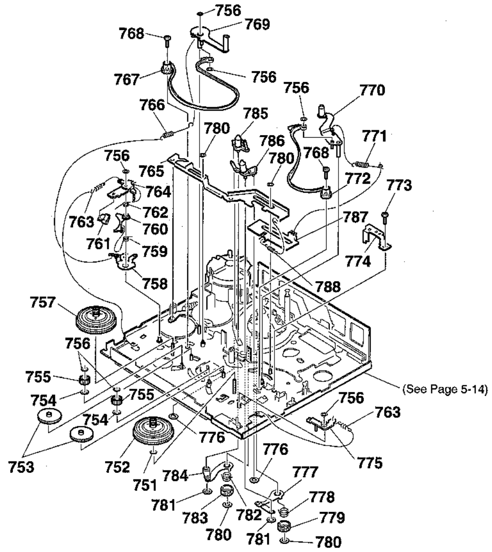
Ref. No.	Part No.	Description	Remarks
701	3-973-163-01	HOLDER, MIC	
702	3-703-816-42	SCREW (M1.4X2.5), SPECIAL HEAD	
703	3-973-174-01	SPRING, TENSION	
704	X-3946-696-1	ARM (T) ASSY, NEUTRALITY	
705	3-973-201-01	BASE, RH	
706	X-3946-695-1	ARM (S) ASSY, NEUTRALITY	
707	3-732-817-01	SCREW (2X4.5), TAPPING	
708	A-7025-004-A	COMPARTMENT BLOCK ASSY	
709	3-973-265-01	CAP, DRUM	
710	X-3946-694-1	ARM ASSY, PINCH	
711	A-7025-003-A	HC BLOCK ASSY	
712	3-349-859-41	WASHER	
713	3-973-266-01	SCREW (M2X2.2 (MEK)), HEAD	
714	A-7026-009-B	SCREW ASSY, DRUM FITTING	
715	3-973-108-01	COVER, CAPSTAN	
716	A-7025-005-A	ARM BLOCK ASSY, TENSION	
717	3-973-177-01	BELT, TIMING	
718	3-726-829-01	WASHER, STOPPER	
719	3-973-164-01	GEAR, RELAY	
720	3-973-128-01	WASHER, TA	
721	X-3946-697-1	ARM ASSY, PENDULUM	
722	3-973-171-01	SUPPORT, TAPE	
723	3-726-884-01	FLANGE, UPPER, TG2	
724	3-973-154-01	ROLLER, TG2	
725	3-973-175-01	SLEEVE, TG2	
726	3-726-886-01	SPRING, COMPRESSION	
727	3-973-817-01	RETAINER, TAPE	
728	3-973-818-01	SPRING, COMPRESSION	
729	1-662-945-11	PWB, FP-495 FLEXIBLE PRINT BOARD	
730	1-801-525-11	SENSOR, DEW CONDENSATION	
M901	A-7044-013-A	DRUM ASSY (DEH-09A-R)	
M902	8-835-575-01	MOTOR, DC SCD13A/J-N	

5-1-13. MECHANISM CHASSIS BLOCK (1) SECTION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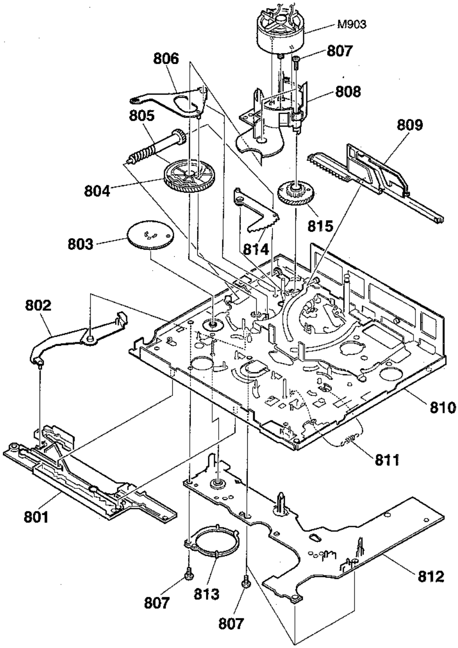
Ref. No.	Part No.	Description	Remarks
751	3-738-212-21	RETAINER, THRUST, REEL TABLE	
752	X-3946-686-1	TABLE (T) ASSY, REEL	
753	X-3946-699-1	GEAR ASSY, DIRECT	
754	3-738-212-01	RETAINER, THRUST, REEL TABLE	
755	3-973-184-01	GEAR, LIMITTER	
756	3-726-829-01	WASHER, STOPPER	
757	X-3946-685-1	TABLE (S) ASSY, REEL	
758	3-973-145-01	HOOK, TG1 SPRING	
759	3-973-127-01	SPRING (S HARD), TORSION	
760	3-973-151-01	HARD, S	
761	3-973-152-01	CAM, S RELEASE	
762	3-973-172-01	SPRING (S BRAKE), TORSION	
763	3-973-174-01	SPRING, TENSION	
764	3-973-153-01	ARM (S), BRAKE	
765	3-973-139-01	SLIDER, SUB	
766	3-973-144-01	SPRING (TG1), TENSION COIL	
767	X-3946-698-1	BAND ASSY, TG1	
768	3-973-266-01	SCREW (M2X2.2 (MEK)), HEAD	
769	X-3946-688-1	ARM ASSY, TG1	
770	X-3946-687-1	TG7 ASSY	
771	3-973-160-01	SPRING (TG7), TENSION COIL	
772	X-3946-700-1	TG7 BAND ASSY	
773	3-732-817-01	SCREW (2X4.5), TAPPING	
774	X-3946-703-1	HOLDER ASSY, TG7	
775	3-973-173-01	ARM (T), BRAKE	
776	3-973-143-01	WASHER, COASTER STOPPER	
777	X-3946-689-1	ARM (T) ASSY, GL	
778	3-973-156-01	SPRING (T), GL TORSION	
779	3-973-138-01	GEAR (T), GL	
780	3-727-176-01	WASHER, STOPPER	
781	3-973-142-01	STOPPER, COASTER PUNCHING	
782	3-973-146-01	SPRING (S), GL TORSION	
783	3-973-264-01	GEAR (S), GL	
784	X-3946-690-1	ARM (S) ASSY, GL	
785	A-7025-006-A	COASTER (S) BLOCK ASSY	
786	A-7025-007-A	COASTER (T) BLOCK ASSY	
787	3-973-150-01	STOPPER, FWD	
788	3-973-161-01	SPRING (FWD STOPPER), COIL	

5-1-14. MECHANISM CHASSIS BLOCK (2) SECTION


M903
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Ref. No.	Part No.	Description	Remarks
801	3-973-200-01	SLIDER, MODE	
802	X-3946-701-1	ARM ASSY, SLIDER	
803	3-973-162-01	GEAR, ENCODER	
804	3-973-182-01	GEAR, MAIN CAM	
805	3-973-159-01	GEAR, JOINT	
806	3-973-157-01	LEVER, SUB SLIDER DRIVING	
807	3-732-817-01	SCREW (2X4.5), TAPPING	
808	X-3946-847-1	HOLDER ASSY, MOTOR	
809	3-973-181-01	SLIDER, PINCH	
810	X-3946-706-2	CHASSIS ASSY, MECHANICAL	
811	3-973-141-01	SPRING, TENSION COIL	
812	A-7066-872-A	MD-70 BOARD, COMPLETE	
813	3-973-176-01	COVER, ENCODER	
814	3-973-158-02	LEVER, LOADING DRIVING	
815	3-973-140-01	GEAR, SUB CAM	
M903	X-3946-702-1	MOTOR ASSY, CAM	

5-2. ELECTRICAL PARTS LIST

NOTE:

When indicating parts by reference number, please include the board naame.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifie.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- CAPACITORS:
  uF: μF
- RESISTORS
  All resistors are in ohms.
  METAL: metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F: nonflammable
- COILS
  uH: μH
- SEMICONDUCTORS
  In each case, u: μ, for example:
  uA...: μA... , uPA... , μPA... ,
  uPB... , μPB... , uPC... , μPC... ,
  uPD..., μPD...

Ref. No.	Part No.	Description			Remarks
	A-7072-898-A	AM-38 BOARD, COMPLETE (DSR-200) *********************			
	A-7072-973-A	AM-38 BOARD, COMPLETE (DSR-200P) *********************			
					(Ref.No.4,000 Series)
		< CONNECTOR >			
CN001	1-573-768-21	PIN, CONNECTOR (1.5MM) (SMD) 5P			
		< DIODE >			
D001	8-719-420-14	DIODE MA8082-M			
D002	8-719-420-14	DIODE MA8082-M			
D003	8-719-420-14	DIODE MA8082-M			
		< RESISTOR >			
R001	1-216-838-11	METAL CHIP	27K	5%	1/16W
R002	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R003	1-216-833-11	METAL CHIP	10K	5%	1/16W
R004	1-216-833-11	METAL CHIP	10K	5%	1/16W
R005	1-216-833-11	METAL CHIP	10K	5%	1/16W
		< SWITCH >			
S001	1-570-984-11	SWITCH, TOGGLE (SHUTTER: AUTO/MANUAL)			
S002	1-570-984-11	SWITCH, TOGGLE (GAIN: AUTO/MANUAL)			
S003	1-570-984-11	SWITCH, TOGGLE (WHT BAL: AUTO/MANUAL)			
S004	1-570-864-11	SWITCH, SLIDE (AUTO LOCK)			
	A-7066-917-A	AU-192 BOARD, COMPLETE (DSR-200) **********************			
*	A-7066-935-A	AU-192P BOARD, COMPLETE (DSR-200P) **********************			
					(Ref.No.2,000 Series)
		< CAPACITOR >			
C001	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C002	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C003	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C012	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C013	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C014	1-104-852-11	TANTAL. CHIP	22uF	20%	6.3V
C015	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C016	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C017	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C018	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C019	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C020	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C021	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C022	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C023	1-104-852-11	TANTAL. CHIP	22uF	20%	6.3V
C024	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C025	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C026	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C027	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C028	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C031	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C032	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C033	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C034	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C035	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C036	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C037	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C041	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C042	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C043	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C044	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C045	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C046	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C047	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C048	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C049	1-162-914-11	CERAMIC CHIP	9PF	0.5PF	50V
C050	1-162-914-11	CERAMIC CHIP	9PF	0.5PF	50V
C051	1-135-072-21	TANTALUM CHIP	0.22uF	10%	35V
C052	1-104-752-11	TANTAL. CHIP	33uF	20%	6.3V
C053	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C061	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C062	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C063	1-162-965-11	CERAMIC CHIP	0.0015uF	10%	50V
C064	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C065	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C066	1-162-965-11	CERAMIC CHIP	0.0015uF	10%	50V
C067	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C068	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C069	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C071	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C072	1-164-156-11	CERAMIC CHIP	0.1uF		25V

AU-192

Ref. No.	Part No.	Description			Remarks
C074	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C080	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C081	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C091	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C100	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C101	1-135-070-00	TANTALUM CHIP	0.1uF	10%	35V
C102	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C103	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C104	1-135-070-00	TANTALUM CHIP	0.1uF	10%	35V
C105	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C106	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C107	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C108	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C109	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C110	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C111	1-162-928-11	CERAMIC CHIP	120PF	5%	50V
C112	1-164-217-11	CERAMIC CHIP	150PF	5%	50V
C113	1-164-217-11	CERAMIC CHIP	150PF	5%	50V
C114	1-162-926-11	CERAMIC CHIP	82PF	5%	50V
C115	1-162-926-11	CERAMIC CHIP	82PF	5%	50V
C116	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C117	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C118	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C119	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C120	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C121	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C122	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C123	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C124	1-162-925-11	CERAMIC CHIP	68PF	5%	50V
C125	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C126	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C127	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C131	1-135-070-00	TANTALUM CHIP	0.1uF	10%	35V
C132	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C133	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C200	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C201	1-135-070-00	TANTALUM CHIP	0.1uF	10%	35V
C202	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C203	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C206	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C207	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C208	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C209	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C210	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C211	1-162-928-11	CERAMIC CHIP	120PF	5%	50V
C212	1-164-217-11	CERAMIC CHIP	150PF	5%	50V
C213	1-164-217-11	CERAMIC CHIP	150PF	5%	50V
C214	1-162-926-11	CERAMIC CHIP	82PF	5%	50V
C215	1-162-926-11	CERAMIC CHIP	82PF	5%	50V
C216	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C217	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C218	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C219	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C221	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C222	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V

Ref. No.	Part No.	Description			Remarks
C223	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C224	1-162-925-11	CERAMIC CHIP	68PF	5%	50V
C225	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C226	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C227	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C231	1-135-070-00	TANTALUM CHIP	0.1uF	10%	35V
C232	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C233	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C801	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C802	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C803	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C804	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C805	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C806	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C807	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C808	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C809	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C810	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C811	1-104-852-11	TANTAL. CHIP	22uF	20%	10V
C812	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C813	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C814	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C815	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C817	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C818	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C819	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C820	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C821	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C822	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C823	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C850	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C901	1-115-412-11	CERAMIC CHIP	680PF	5%	25V
C902	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C903	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C905	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C906	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C907	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C908	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V (DSR-200P)
C908	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V (DSR-200)
C911	1-113-981-11	TANTAL. CHIP	22uF	20%	20V
C912	1-113-981-11	TANTAL. CHIP	22uF	20%	20V
C914	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C916	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C917	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C918	1-113-985-11	TANTAL. CHIP	10uF	20%	20V
C919	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C920	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C921	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C922	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C923	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C924	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C925	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C926	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C927	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C928	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C929	1-164-156-11	CERAMIC CHIP	0.1uF		25V

Ref. No.	Part No.	Description	Remarks
C930	1-104-851-11	TANTAL. CHIP 10uF 20%	10V
		< CONNECTOR >	
CN002	1-691-492-21	CONNECTOR, FFC/FPC 13P	
CN003	1-764-007-11	PIN, CONNECTOR (SMD) 12P	
* CN004	1-770-451-21	CONNECTOR, BOARD TO BOARD 70P	
CN901	1-573-368-11	CONNECTOR, FFC/FPC 28P	
CN902	1-691-494-21	CONNECTOR, FFC/FPC 15P	
CN906	1-770-542-21	CONNECTOR, FFC/FPC 40P	
CN907	1-691-492-21	CONNECTOR, FFC/FPC 13P	
CN908	1-691-485-21	CONNECTOR, FFC/FPC 6P	
* CN909	1-580-056-21	PIN, CONNECTOR (SMD) 3P	
CN911	1-569-775-21	PIN, CONNECTOR 5P	
CN912	1-569-478-21	CONNECTOR, FPC 20P	
CN913	1-569-775-21	PIN, CONNECTOR 5P	
CN914	1-573-364-11	CONNECTOR, FFC/FPC 24P	
* CN915	1-770-451-21	CONNECTOR, BOARD TO BOARD 70P	
CN916	1-774-024-21	CONNECTOR, FFC/FPC (ZIF) 34P	
CN917	1-774-024-21	CONNECTOR, FFC/FPC (ZIF) 34P	
CN918	1-580-055-21	PIN, CONNECTOR 2P	
* CN919	1-580-056-21	PIN, CONNECTOR 3P	
		< DIODE >	
D001	8-719-404-49	DIODE MA111	
D003	8-719-404-49	DIODE MA111	
D004	8-719-404-49	DIODE MA111	
D006	8-719-404-49	DIODE MA111	
D010	8-719-404-49	DIODE MA111	
D011	8-719-404-16	DIODE MA713	
D012	8-719-404-16	DIODE MA713	
D013	8-719-027-48	DIODE MA142WA	
D014	8-719-404-49	DIODE MA111	
D015	8-719-404-49	DIODE MA111	
D020	8-719-404-49	DIODE MA111	
D022	8-719-027-50	DIODE MA142WK	
D023	8-719-404-49	DIODE MA111	
D024	8-719-027-50	DIODE MA142WK	
D801	8-719-055-86	DIODE KV1470TL1-3	
D901	8-719-938-78	DIODE SB10-05PCP	
		< FERRITE BEAD >	
FB800	1-543-954-11	BEAD, FERRITE (CHIP)	
FB801	1-543-954-11	BEAD, FERRITE (CHIP)	
		< IC >	
IC001	8-759-430-88	IC TC74HC4051AFS(EL)	
IC002	8-759-111-56	IC uPC4572G2	
IC003	8-759-111-56	IC uPC4572G2	
IC004	8-759-089-61	IC TC74HC4052AFS(EL)	
IC005	8-759-512-62	IC CXA1497N	
IC006	8-759-512-62	IC CXA1497N	
IC007	8-759-710-79	IC NJM2107F	
IC008	8-759-252-90	IC TLV2362IPW-ELM1500	
IC009	8-759-252-90	IC TLV2362IPW-ELM1500	
IC010	8-759-082-61	IC TC4W53FU	
IC011	8-759-326-98	IC AK4503-VF-E2	

Ref. No.	Part No.	Description	Remarks
IC012	8-759-252-90	IC TLV2362IPW-ELM1500	
IC014	8-752-362-00	IC CXD2707Q	
IC015	8-759-058-41	IC NJM3416V	
IC016	8-759-089-61	IC TC74HC4052AFS(EL)	
IC017	8-759-299-00	IC BA7785FS-E2	
IC018	8-759-518-90	IC MB88362PFV	
IC801	8-759-429-28	IC CXD8630R	
IC802	8-759-271-86	IC TC7SH04FU	
IC803	8-759-362-16	IC CXD2913AQ	
IC804	8-759-327-01	IC NJM062V(TE2)	
IC805	8-759-271-86	IC TC7SH04FU (DSR-200)	
IC901	8-759-166-48	IC MB3778PFV	
IC902	8-759-011-65	IC MC74HC4053F	
IC904	8-759-239-55	IC TC74HC123AF	
IC905	8-759-082-59	IC TC7W32FU	
IC906	8-759-428-89	IC MB88364PFV-G-BND-ER	
IC907	8-759-324-99	IC MM1118XFBE	
		< COIL >	
L001	1-412-029-11	INDUCTOR CHIP 10uH	
L002	1-412-029-11	INDUCTOR CHIP 10uH	
L003	1-412-029-11	INDUCTOR CHIP 10uH	
L004	1-412-029-11	INDUCTOR CHIP 10uH	
L005	1-412-029-11	INDUCTOR CHIP 10uH	
L006	1-412-029-11	INDUCTOR CHIP 10uH	
L801	1-414-398-11	INDUCTOR 10uH	
L802	1-414-398-11	INDUCTOR 10uH	
L803	1-414-398-11	INDUCTOR 10uH	
L804	1-414-398-11	INDUCTOR 10uH	
L805	1-414-398-11	INDUCTOR 10uH	
L806	1-411-273-21	COIL, VARIABLE	
L807	1-414-398-11	INDUCTOR 10uH	
L901	1-409-529-41	COIL, CHOKE 10uH	
L903	1-409-537-41	COIL, CHOKE 220uH	
L904	1-409-529-41	COIL, CHOKE 10uH	
L905	1-414-398-11	INDUCTOR 10uH	
		< IC LINK >	
⚠PS901	1-576-123-21	LINK, IC 800mA	
		< TRANSISTOR >	
Q001	8-729-420-12	TRANSISTOR XN4213	
Q002	8-729-402-42	TRANSISTOR UN5213	
Q003	8-729-420-12	TRANSISTOR XN4213	
Q004	8-729-420-12	TRANSISTOR XN4213	
Q005	8-729-420-12	TRANSISTOR XN4213	
Q006	8-729-420-12	TRANSISTOR XN4213	
Q007	8-729-420-12	TRANSISTOR XN4213	
Q008	8-729-420-20	TRANSISTOR XN4312	
Q009	8-729-026-53	TRANSISTOR 2SA1576A-T106-QR	
Q010	8-729-026-53	TRANSISTOR 2SA1576A-T106-QR	

Note :	Note :
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

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Ref. No.	Part No.	Description			Remarks
Q011	8-729-402-81	TRANSISTOR XN4501			
Q012	8-729-420-12	TRANSISTOR XN4213			
Q013	8-729-402-81	TRANSISTOR XN4501			
Q014	8-729-402-42	TRANSISTOR UN5213			
Q015	8-729-905-23	TRANSISTOR 2SA1576-R			
Q017	8-729-402-42	TRANSISTOR UN5213			
Q018	8-729-141-48	TRANSISTOR 2SB624-BV345			
Q019	8-729-905-38	TRANSISTOR 2SC4081T106R			
Q020	8-729-026-53	TRANSISTOR 2SA1576A-T106-QR			
Q021	8-729-026-53	TRANSISTOR 2SA1576A-T106-QR			
Q029	8-729-905-38	TRANSISTOR 2SC4081T106R			
Q096	8-729-425-50	TRANSISTOR 2SB1462-Q			
Q902	8-729-012-64	TRANSISTOR 2SB1396-S/T/U-TD			
Q903	8-729-905-23	TRANSISTOR 2SA1576-R			
Q904	8-729-905-38	TRANSISTOR 2SC4081T106R			
Q905	8-729-420-53	TRANSISTOR UN5115			
Q906	8-729-402-42	TRANSISTOR UN5213			
Q907	8-729-905-23	TRANSISTOR 2SA1576-R			
Q908	8-729-905-23	TRANSISTOR 2SA1576-R			
Q909	8-729-402-42	TRANSISTOR UN5213			
Q910	8-729-808-41	TRANSISTOR 2SD1624-S			
		< RESISTOR >			
R001	1-216-845-11	METAL CHIP	100K	5%	1/16W
R002	1-216-821-11	METAL CHIP	1K	5%	1/16W
R003	1-216-821-11	METAL CHIP	1K	5%	1/16W
R004	1-216-821-11	METAL CHIP	1K	5%	1/16W
R005	1-216-821-11	METAL CHIP	1K	5%	1/16W
R007	1-216-864-11	METAL CHIP	0	5%	1/16W
R008	1-216-864-11	METAL CHIP	0	5%	1/16W
R010	1-216-864-11	METAL CHIP	0	5%	1/16W
R012	1-216-845-11	METAL CHIP	100K	5%	1/16W
R013	1-216-845-11	METAL CHIP	100K	5%	1/16W
R014	1-216-864-11	METAL CHIP	0	5%	1/16W
R015	1-216-864-11	METAL CHIP	0	5%	1/16W
R019	1-216-845-11	METAL CHIP	100K	5%	1/16W
R021	1-216-861-11	METAL CHIP	2.2M	5%	1/16W
R022	1-216-833-11	METAL CHIP	10K	5%	1/16W
R023	1-216-833-11	METAL CHIP	10K	5%	1/16W
R024	1-216-864-11	METAL CHIP	0	5%	1/16W
R025	1-218-871-11	METAL CHIP	10K	0.50%	1/16W
R026	1-216-861-11	METAL CHIP	2.2M	5%	1/16W
R027	1-216-801-11	METAL CHIP	22	5%	1/16W
R028	1-216-821-11	METAL CHIP	1K	5%	1/16W
R029	1-216-833-11	METAL CHIP	10K	5%	1/16W
R031	1-216-861-11	METAL CHIP	2.2M	5%	1/16W
R033	1-218-871-11	METAL CHIP	10K	0.50%	1/16W
R034	1-216-864-11	METAL CHIP	0	5%	1/16W
R035	1-216-861-11	METAL CHIP	2.2M	5%	1/16W
R036	1-216-801-11	METAL CHIP	22	5%	1/16W
R037	1-216-821-11	METAL CHIP	1K	5%	1/16W
R038	1-216-833-11	METAL CHIP	10K	5%	1/16W
R039	1-216-845-11	METAL CHIP	100K	5%	1/16W
R040	1-216-845-11	METAL CHIP	100K	5%	1/16W
R041	1-216-845-11	METAL CHIP	100K	5%	1/16W
R043	1-216-841-11	METAL CHIP	47K	5%	1/16W

Ref. No.	Part No.	Description			Remarks
R044	1-216-835-11	METAL CHIP	15K	5%	1/16W
R045	1-216-841-11	METAL CHIP	47K	5%	1/16W
R046	1-216-843-11	METAL CHIP	68K	5%	1/16W
R047	1-216-843-11	METAL CHIP	68K	5%	1/16W
R048	1-216-843-11	METAL CHIP	68K	5%	1/16W
R049	1-216-844-11	METAL CHIP	82K	5%	1/16W
R050	1-216-837-11	METAL CHIP	22K	5%	1/16W
R051	1-216-841-11	METAL CHIP	47K	5%	1/16W
R052	1-216-843-11	METAL CHIP	68K	5%	1/16W
R053	1-216-845-11	METAL CHIP	100K	5%	1/16W
R054	1-216-843-11	METAL CHIP	68K	5%	1/16W
R055	1-216-845-11	METAL CHIP	100K	5%	1/16W
R056	1-216-841-11	METAL CHIP	47K	5%	1/16W
R057	1-216-841-11	METAL CHIP	47K	5%	1/16W
R058	1-216-841-11	METAL CHIP	47K	5%	1/16W
R059	1-216-841-11	METAL CHIP	47K	5%	1/16W
R061	1-216-845-11	METAL CHIP	100K	5%	1/16W
R062	1-216-797-11	METAL CHIP	10	5%	1/16W
R063	1-216-864-11	METAL CHIP	0	5%	1/16W
R064	1-216-864-11	METAL CHIP	0	5%	1/16W
R065	1-216-845-11	METAL CHIP	100K	5%	1/16W
R067	1-216-857-11	METAL CHIP	1M	5%	1/16W
R068	1-216-815-11	METAL CHIP	330	5%	1/16W
R071	1-216-813-11	METAL CHIP	220	5%	1/16W
R072	1-216-841-11	METAL CHIP	47K	5%	1/16W
R073	1-216-841-11	METAL CHIP	47K	5%	1/16W
R074	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R075	1-216-813-11	METAL CHIP	220	5%	1/16W
R080	1-216-845-11	METAL CHIP	100K	5%	1/16W
R083	1-216-821-11	METAL CHIP	1K	5%	1/16W
R084	1-216-821-11	METAL CHIP	1K	5%	1/16W
R085	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R091	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R092	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R094	1-216-864-11	METAL CHIP	0	5%	1/16W
R095	1-216-853-11	METAL CHIP	470K	5%	1/16W
R096	1-216-841-11	METAL CHIP	47K	5%	1/16W
R098	1-216-833-11	METAL CHIP	10K	5%	1/16W
R099	1-216-833-11	METAL CHIP	10K	5%	1/16W
R101	1-216-864-11	METAL CHIP	0	5%	1/16W
R102	1-216-845-11	METAL CHIP	100K	5%	1/16W
R103	1-218-889-11	METAL CHIP	56K	0.50%	1/16W
R104	1-216-837-11	METAL CHIP	22K	5%	1/16W
R105	1-218-883-11	METAL CHIP	33K	0.50%	1/16W
R106	1-216-837-11	METAL CHIP	22K	5%	1/16W
R107	1-218-883-11	METAL CHIP	33K	0.50%	1/16W
R108	1-218-883-11	METAL CHIP	33K	0.50%	1/16W
R109	1-216-845-11	METAL CHIP	100K	5%	1/16W
R110	1-216-817-11	METAL CHIP	470	5%	1/16W
R111	1-216-845-11	METAL CHIP	100K	5%	1/16W
R112	1-216-817-11	METAL CHIP	470	5%	1/16W
R115	1-218-869-11	METAL CHIP	8.2K	0.50%	1/16W
R116	1-218-869-11	METAL CHIP	8.2K	0.50%	1/16W
R121	1-218-879-11	METAL CHIP	22K	0.50%	1/16W
R122	1-218-889-11	METAL CHIP	56K	0.50%	1/16W
R123	1-218-879-11	METAL CHIP	22K	0.50%	1/16W

Ref. No.	Part No.	Description			Remarks
R124	1-218-879-11	METAL CHIP	22K	0.50%	1/16W
R125	1-218-879-11	METAL CHIP	22K	0.50%	1/16W
R127	1-218-883-11	METAL CHIP	33K	0.50%	1/16W
R128	1-218-883-11	METAL CHIP	33K	0.50%	1/16W
R129	1-218-891-11	METAL CHIP	68K	0.50%	1/16W
R130	1-218-891-11	METAL CHIP	68K	0.50%	1/16W
R131	1-216-837-11	METAL CHIP	22K	5%	1/16W
R132	1-216-837-11	METAL CHIP	22K	5%	1/16W
R142	1-218-887-11	METAL CHIP	47K	0.50%	1/16W
R143	1-218-887-11	METAL CHIP	47K	0.50%	1/16W
R144	1-216-845-11	METAL CHIP	100K	5%	1/16W
R145	1-218-873-11	METAL CHIP	12K	0.50%	1/16W
R146	1-218-871-11	METAL CHIP	10K	0.50%	1/16W
R147	1-216-821-11	METAL CHIP	1K	5%	1/16W
R148	1-216-841-11	METAL CHIP	47K	5%	1/16W
R149	1-216-821-11	METAL CHIP	1K	5%	1/16W
R151	1-216-802-11	METAL GLAZE	27	5%	1/16W
R152	1-216-845-11	METAL CHIP	100K	5%	1/16W
R153	1-216-821-11	METAL CHIP	1K	5%	1/16W
R160	1-216-864-11	METAL CHIP	0	5%	1/16W
R162	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R163	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R201	1-216-864-11	METAL CHIP	0	5%	1/16W
R202	1-216-845-11	METAL CHIP	100K	5%	1/16W
R203	1-218-889-11	METAL CHIP	56K	0.50%	1/16W
R204	1-216-837-11	METAL CHIP	22K	5%	1/16W
R205	1-218-883-11	METAL CHIP	33K	0.50%	1/16W
R206	1-216-837-11	METAL CHIP	22K	5%	1/16W
R207	1-218-883-11	METAL CHIP	33K	0.50%	1/16W
R208	1-218-883-11	METAL CHIP	33K	0.50%	1/16W
R209	1-216-845-11	METAL CHIP	100K	5%	1/16W
R210	1-216-817-11	METAL CHIP	470	5%	1/16W
R211	1-216-845-11	METAL CHIP	100K	5%	1/16W
R212	1-216-817-11	METAL CHIP	470	5%	1/16W
R215	1-218-869-11	METAL CHIP	8.2K	0.50%	1/16W
R221	1-218-879-11	METAL CHIP	22K	0.50%	1/16W
R222	1-218-889-11	METAL CHIP	56K	0.50%	1/16W
R223	1-218-879-11	METAL CHIP	22K	0.50%	1/16W
R224	1-218-879-11	METAL CHIP	22K	0.50%	1/16W
R225	1-218-879-11	METAL CHIP	22K	0.50%	1/16W
R227	1-218-883-11	METAL CHIP	33K	0.50%	1/16W
R228	1-218-883-11	METAL CHIP	33K	0.50%	1/16W
R229	1-218-891-11	METAL CHIP	68K	0.50%	1/16W
R230	1-218-891-11	METAL CHIP	68K	0.50%	1/16W
R231	1-216-837-11	METAL CHIP	22K	5%	1/16W
R232	1-216-837-11	METAL CHIP	22K	5%	1/16W
R242	1-218-887-11	METAL CHIP	47K	0.50%	1/16W
R243	1-218-887-11	METAL CHIP	47K	0.50%	1/16W
R244	1-216-845-11	METAL CHIP	100K	5%	1/16W
R245	1-218-873-11	METAL CHIP	12K	0.50%	1/16W
R246	1-218-871-11	METAL CHIP	10K	0.50%	1/16W
R247	1-216-821-11	METAL CHIP	1K	5%	1/16W
R248	1-216-841-11	METAL CHIP	47K	5%	1/16W
R249	1-216-821-11	METAL CHIP	1K	5%	1/16W
R251	1-216-802-11	METAL GLAZE	27	5%	1/16W

Ref. No.	Part No.	Description			Remarks
R252	1-216-845-11	METAL CHIP	100K	5%	1/16W
R253	1-216-821-11	METAL CHIP	1K	5%	1/16W
R801	1-216-864-11	METAL CHIP	0	5%	1/16W
R804	1-216-864-11	METAL CHIP	0	5%	1/16W
R806	1-216-864-11	METAL CHIP	0	5%	1/16W
R808	1-216-864-11	METAL CHIP	0	5%	1/16W
R810	1-216-864-11	METAL CHIP	0	5%	1/16W
R811	1-216-864-11	METAL CHIP	0	5%	1/16W (DSR-200)
R812	1-216-864-11	METAL CHIP	0	5%	1/16W
R816	1-216-864-11	METAL CHIP	0	5%	1/16W
R817	1-216-801-11	METAL CHIP	22	5%	1/16W
R819	1-216-864-11	METAL CHIP	0	5%	1/16W
R820	1-216-864-11	METAL CHIP	0	5%	1/16W
R821	1-216-864-11	METAL CHIP	0	5%	1/16W
R822	1-216-864-11	METAL CHIP	0	5%	1/16W
R823	1-216-864-11	METAL CHIP	0	5%	1/16W
R824	1-216-864-11	METAL CHIP	0	5%	1/16W
R825	1-216-821-11	METAL CHIP	1K	5%	1/16W
R826	1-216-864-11	METAL CHIP	0	5%	1/16W
R827	1-216-864-11	METAL CHIP	0	5%	1/16W
R828	1-216-841-11	METAL CHIP	47K	5%	1/16W
R829	1-216-841-11	METAL CHIP	47K	5%	1/16W
R830	1-216-821-11	METAL CHIP	1K	5%	1/16W
R831	1-216-841-11	METAL CHIP	47K	5%	1/16W
R832	1-216-841-11	METAL CHIP	47K	5%	1/16W
R833	1-216-841-11	METAL CHIP	47K	5%	1/16W
R834	1-216-841-11	METAL CHIP	47K	5%	1/16W
R835	1-216-842-11	METAL CHIP	56K	5%	1/16W
R836	1-216-845-11	METAL CHIP	100K	5%	1/16W
R837	1-216-864-11	METAL CHIP	0	5%	1/16W
R838	1-216-864-11	METAL CHIP	0	5%	1/16W
R839	1-216-864-11	METAL CHIP	0	5%	1/16W
R840	1-216-864-11	METAL CHIP	0	5%	1/16W
R841	1-216-864-11	METAL CHIP	0	5%	1/16W
R842	1-216-864-11	METAL CHIP	0	5%	1/16W
R843	1-216-864-11	METAL CHIP	0	5%	1/16W
R844	1-216-864-11	METAL CHIP	0	5%	1/16W
R902	1-216-833-11	METAL CHIP	10K	5%	1/16W
R905	1-216-833-11	METAL CHIP	10K	5%	1/16W
R909	1-216-833-11	METAL CHIP	10K	5%	1/16W
R910	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R912	1-216-833-11	METAL CHIP	10K	5%	1/16W
R913	1-218-330-11	METAL GLAZE	11K	5%	1/16W
R915	1-216-864-11	METAL CHIP	0	5%	1/16W
R916	1-216-844-11	METAL CHIP	82K	5%	1/16W
R918	1-216-845-11	METAL CHIP	100K	5%	1/16W
R919	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R920	1-216-833-11	METAL CHIP	10K	5%	1/16W
R921	1-216-813-11	METAL CHIP	220	5%	1/16W
R922	1-216-821-11	METAL CHIP	1K	5%	1/16W
R923	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R926	1-216-864-11	METAL CHIP	0	5%	1/16W
R927	1-218-855-11	METAL CHIP	2.2K	0.50%	1/16W
R928	1-218-875-11	METAL CHIP	15K	0.50%	1/16W
R929	1-216-801-11	METAL CHIP	22	5%	1/16W

Ref. No.	Part No.	Description			Remarks
R930	1-216-809-11	METAL CHIP	100	5%	1/16W
R931	1-216-841-11	METAL CHIP	47K	5%	1/16W
R932	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R933	1-216-833-11	METAL CHIP	10K	5%	1/16W
R934	1-216-833-11	METAL CHIP	10K	5%	1/16W
R935	1-216-833-11	METAL CHIP	10K	5%	1/16W
R936	1-216-833-11	METAL CHIP	10K	5%	1/16W
R937	1-216-815-11	METAL CHIP	330	5%	1/16W
R938	1-216-835-11	METAL CHIP	15K	5%	1/16W
R939	1-216-801-11	METAL CHIP	22	5%	1/16W
R941	1-218-849-11	METAL CHIP	1.2K	0.50%	1/16W
R942	1-218-841-11	METAL GLAZE	560	0.50%	1/16W
R943	1-218-841-11	METAL GLAZE	560	0.50%	1/16W
R944	1-218-855-11	METAL CHIP	2.2K	0.50%	1/16W
R945	1-216-842-11	METAL CHIP	56K	5%	1/16W (DSR-200)
R945	1-216-844-11	METAL CHIP	82K	5%	1/16W (DSR-200P)
R946	1-216-821-11	METAL CHIP	1K	5%	1/16W
R948	1-216-845-11	METAL CHIP	100K	5%	1/16W
R949	1-216-845-11	METAL CHIP	100K	5%	1/16W
R950	1-216-845-11	METAL CHIP	100K	5%	1/16W
R951	1-216-845-11	METAL CHIP	100K	5%	1/16W
R952	1-216-845-11	METAL CHIP	100K	5%	1/16W
R953	1-216-845-11	METAL CHIP	100K	5%	1/16W
R954	1-216-845-11	METAL CHIP	100K	5%	1/16W
R955	1-216-845-11	METAL CHIP	100K	5%	1/16W
R956	1-216-864-11	METAL CHIP	0	5%	1/16W
R957	1-216-845-11	METAL CHIP	100K	5%	1/16W
R959	1-218-871-11	METAL CHIP	10K	0.50%	1/16W
R960	1-218-880-11	METAL CHIP	24K	0.50%	1/16W
R961	1-216-845-11	METAL CHIP	100K	5%	1/16W
R962	1-216-845-11	METAL CHIP	100K	5%	1/16W
R964	1-216-845-11	METAL CHIP	100K	5%	1/16W
R965	1-216-845-11	METAL CHIP	100K	5%	1/16W
R966	1-216-845-11	METAL CHIP	100K	5%	1/16W
R967	1-216-845-11	METAL CHIP	100K	5%	1/16W
R968	1-216-829-11	METAL CHIP	4.7K	5%	1/16W (DSR-200P)
R968	1-216-845-11	METAL CHIP	100K	5%	1/16W (DSR-200)
R972	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
		< CONPOSITION CIRCUIT BLOCK >			
RB001	1-236-436-11	NETWORK, RES 100K			
RB002	1-236-436-11	NETWORK, RES 100K			
RB003	1-236-412-11	NETWORK, RES 1.0K			
RB004	1-236-436-11	NETWORK, RES 100K			
		< VARIABLE RESISTOR >			
RV001	1-225-348-11	RES, VAR, CARBON 20K/20K (REC LEVEL L)			
RV002	1-225-348-11	RES, VAR, CARBON 20K/20K (REC LEVEL R)			
		< VIBRATOR >			
X001	1-579-922-11	VIBRATOR, CRYSTAL (CHIP TYPE) 24.576MHz			

Ref. No.	Part No.	Description			Remarks
	A-7066-869-A	CB-54P BOARD, COMPLETE (DSR-200P)			
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	A-7066-899-A	CB-54 BOARD, COMPLETE (DSR-200)			
		*********************			
					(Ref.No.1,000 Series)
		< CAPACITOR >			
C001	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C002	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C004	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C005	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C006	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C007	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C012	1-135-145-11	TANTALUM CHIP	0.47uF	10%	35V
C013	1-135-145-11	TANTALUM CHIP	0.47uF	10%	35V
C014	1-135-145-11	TANTALUM CHIP	0.47uF	10%	35V
C015	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C016	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C017	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C020	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C021	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C022	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C023	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C024	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C025	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C026	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C027	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C028	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C029	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C030	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C031	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C032	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C033	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C034	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C035	1-135-214-21	TANTAL. CHIP	4.7uF	20%	20V
C036	1-135-214-21	TANTAL. CHIP	4.7uF	20%	20V
C037	1-135-214-21	TANTAL. CHIP	4.7uF	20%	20V
C038	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C040	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C042	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C044	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C045	1-164-346-11	CERAMIC CHIP	1uF		16V
C046	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C047	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C048	1-135-091-00	TANTALUM CHIP	1uF	20%	16V
C049	1-135-091-00	TANTALUM CHIP	1uF	20%	16V
C050	1-162-913-11	CERAMIC CHIP	8PF	0.5PF	50V
C051	1-135-091-00	TANTALUM CHIP	1uF	20%	16V
C052	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C053	1-135-091-00	TANTALUM CHIP	1uF	20%	16V
C054	1-135-091-00	TANTALUM CHIP	1uF	20%	16V
C055	1-135-091-00	TANTALUM CHIP	1uF	20%	16V
C056	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C057	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C058	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C059	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C060	1-164-360-11	CERAMIC CHIP	0.1uF		16V

Ref. No.	Part No.	Description			Remarks
C061	1-164-346-11	CERAMIC CHIP	1uF		16V
C062	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C063	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C064	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C066	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C067	1-135-070-00	TANTALUM CHIP	0.1uF	10%	35V
C068	1-135-070-00	TANTALUM CHIP	0.1uF	10%	35V
C069	1-135-070-00	TANTALUM CHIP	0.1uF	10%	35V
C070	1-164-346-11	CERAMIC CHIP	1uF		16V
C071	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C072	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C073	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C075	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C076	1-162-916-11	CERAMIC CHIP	12PF	5%	50V
C077	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C078	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C079	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C080	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C081	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C082	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C083	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C084	1-162-965-11	CERAMIC CHIP	0.0015uF	10%	50V
C085	1-162-965-11	CERAMIC CHIP	0.0015uF	10%	50V
C086	1-162-920-11	CERAMIC CHIP	27PF	5%	50V
C087	1-162-920-11	CERAMIC CHIP	27PF	5%	50V
C088	1-162-920-11	CERAMIC CHIP	27PF	5%	50V
C089	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C090	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C091	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C092	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C093	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C094	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C095	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C096	1-135-151-21	TANTALUM CHIP	4.7uF	20%	4V
C098	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C099	1-135-151-21	TANTALUM CHIP	4.7uF	20%	4V
C100	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C101	1-135-151-21	TANTALUM CHIP	4.7uF	20%	4V
C102	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C103	1-164-346-11	CERAMIC CHIP	1uF		16V
C104	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C105	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C106	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C107	1-164-346-11	CERAMIC CHIP	1uF		16V
C108	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C109	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C110	1-164-346-11	CERAMIC CHIP	1uF		16V
C111	1-164-346-11	CERAMIC CHIP	1uF		16V
C112	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C113	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C114	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C117	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C121	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C122	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C123	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C124	1-164-346-11	CERAMIC CHIP	1uF		16V
C125	1-164-346-11	CERAMIC CHIP	1uF		16V
C126	1-164-346-11	CERAMIC CHIP	1uF		16V
C127	1-164-346-11	CERAMIC CHIP	1uF		16V
C128	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C129	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C130	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C131	1-135-151-21	TANTALUM CHIP	4.7uF	20%	4V
C132	1-135-151-21	TANTALUM CHIP	4.7uF	20%	4V
C133	1-135-151-21	TANTALUM CHIP	4.7uF	20%	4V
C199	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C203	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C204	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C205	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C206	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C208	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C209	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C210	1-115-156-11	CERAMIC CHIP	1uF		10V
C211	1-162-920-11	CERAMIC CHIP	27PF	5%	50V
C213	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C214	1-162-916-11	CERAMIC CHIP	12PF	5%	50V
C215	1-162-906-11	CERAMIC CHIP	1.5PF	0.25PF	50V
C216	1-135-179-21	TANTAL. CHIP	2.2uF	20%	16V
C217	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C218	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C219	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C221	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C225	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C226	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C227	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C228	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C229	1-115-156-11	CERAMIC CHIP	1uF		10V
C231	1-115-156-11	CERAMIC CHIP	1uF		10V
C233	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C235	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C237	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C238	1-135-091-00	TANTALUM CHIP	1uF	20%	16V
C244	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C245	1-162-908-11	CERAMIC CHIP	3PF	0.25PF	50V
C246	1-162-920-11	CERAMIC CHIP	27PF	5%	50V
C247	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C248	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C249	1-135-145-11	TANTALUM CHIP	0.47uF	10%	35V
C250	1-135-145-11	TANTALUM CHIP	0.47uF	10%	35V
C251	1-115-156-11	CERAMIC CHIP	1uF		10V
C253	1-115-156-11	CERAMIC CHIP	1uF		10V
C255	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C257	1-115-156-11	CERAMIC CHIP	1uF		10V
C258	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C259	1-164-346-11	CERAMIC CHIP	1uF		16V
C261	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C262	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C263	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C264	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C265	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V

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Ref. No.	Part No.	Description			Remarks
C266	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C267	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C268	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C290	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C291	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C292	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C293	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C294	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C295	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C296	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C297	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C298	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C299	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C300	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C301	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C302	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C303	1-135-091-00	TANTALUM CHIP	1uF	20%	16V
C304	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C305	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C306	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C307	1-164-346-11	CERAMIC CHIP	1uF		16V
C309	1-164-346-11	CERAMIC CHIP	1uF		16V
C310	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C311	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C313	1-164-346-11	CERAMIC CHIP	1uF		16V
C314	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C315	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C316	1-164-346-11	CERAMIC CHIP	1uF		16V
C317	1-164-346-11	CERAMIC CHIP	1uF		16V
C318	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C319	1-164-346-11	CERAMIC CHIP	1uF		16V
C320	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C321	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C322	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C323	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C325	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C326	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C327	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C328	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C329	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C330	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C331	1-164-346-11	CERAMIC CHIP	1uF		16V
C332	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C333	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C334	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C335	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C336	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C337	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C338	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C339	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C340	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C341	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C342	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C343	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C344	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V

Ref. No.	Part No.	Description			Remarks
C345	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C347	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C348	1-135-145-11	TANTALUM CHIP	0.47uF	10%	35V
C349	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C350	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C351	1-135-145-11	TANTALUM CHIP	0.47uF	10%	35V
C352	1-113-996-11	TANTAL. CHIP	220uF	20%	4V
C353	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C354	1-135-179-21	TANTAL. CHIP	2.2uF	20%	16V
C355	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C356	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C357	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C358	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C359	1-113-996-11	TANTAL. CHIP	220uF	20%	4V
C360	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C361	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C362	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C363	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C364	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C365	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C372	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C373	1-135-145-11	TANTALUM CHIP	0.47uF	10%	35V
		< CONNECTOR >			
CN001	1-750-345-11	CONNECTOR, FFC/EPC (ZIF) 30P			
CN002	1-770-543-21	CONNECTOR, FFC/FPC 40P			
* CN003	1-766-971-21	CONNECTOR, BOARD TO BOARD 42P			
* CN201	1-691-189-11	CONNECTOR, BOARD TO BOARD 48P			
* CN202	1-770-451-21	CONNECTOR, BOARD TO BOARD 70P			
CN290	1-573-364-11	CONNECTOR, FFC/FPC 24P			
		< TRIMMER >			
CT001	1-141-356-11	CAP, ADJ 6PF			
CT201	1-141-424-11	CAP, ADJ			
CT202	1-141-423-61	CAP, ADJ 20PF			
		< DIODE >			
D001	8-719-046-91	DIODE MA2S111			
D002	8-719-046-91	DIODE MA2S111			
D003	8-719-046-91	DIODE MA2S111			
D004	8-719-046-91	DIODE MA2S111			
D005	8-719-046-91	DIODE MA2S111			
D006	8-719-046-91	DIODE MA2S111			
D007	8-719-421-67	DIODE MA132WK			
D008	8-719-421-67	DIODE MA132WK			
D009	8-719-421-67	DIODE MA132WK			
D201	8-719-002-81	DIODE 1T363			
D202	8-719-055-86	DIODE KV1470TL1-3			
D297	8-719-046-91	DIODE MA2S111			
		< FILTER >			
FL290	1-233-345-21	FILTER, LOW PASS (5.5MHz)			
FL291	1-233-345-21	FILTER, LOW PASS (5.5MHz)			
FL292	1-233-345-21	FILTER, LOW PASS (5.5MHz)			
FL293	1-415-763-21	DELAY LINE, LC			
FL294	1-415-763-21	DELAY LINE, LC			

Ref. No.	Part No.	Description	Remarks
FL295	1-233-346-21	FILTER, BAND PASS (DSR-200)	
FL295	1-233-390-21	FILTER, BAND PASS (DSR-200P)	

< IC >

Ref. No.	Part No.	Description	Remarks
IC001	8-759-428-90	IC MC68HC11MA8FUL-SC424623FUL	
IC002	8-752-372-14	IC CXD1267AN	
IC003	8-752-372-14	IC CXD1267AN	
IC004	8-752-372-14	IC CXD1267AN	
IC005	8-752-064-37	IC CXA1757R	
IC006	8-752-357-60	IC CXD1264R	
IC007	8-759-278-56	IC AK6440HF	
IC008	8-752-377-29	IC CXD2417AR	
IC009	8-752-364-79	IC CXD2311R	
IC010	8-752-364-79	IC CXD2311R	
IC011	8-752-364-79	IC CXD2311R	
IC012	8-759-328-26	IC CXD2146R	
IC013	8-752-375-84	IC CXD2145AR	
IC014	8-759-064-36	IC MB88346BPFV	
IC015	8-759-064-36	IC MB88346BPFV	
IC016	8-752-377-29	IC CXD2147R-T6	
IC017	8-759-327-30	IC CXD2158R-T6	
IC018	8-759-080-34	IC TA75W01FU	
IC019	8-759-075-66	IC TA75S01F	
IC201	8-759-278-57	IC AK6420HF-E2	
IC202	8-759-328-16	IC CXD2181R-T6	
IC203	8-759-382-18	IC CXD2182AR	
IC204	8-752-374-89	IC CXD2192Q	
IC205	8-759-343-09	IC CXD2193AR-ER	
IC207	8-759-198-63	IC S-81230SG-QB-T1	
IC290	8-752-371-65	IC CXD2304R	
IC291	8-759-082-60	IC TC7S66FU	
IC292	8-752-053-21	IC CXA1211M	
IC293	8-759-064-36	IC MB88346BPFV	
IC294	8-752-056-59	IC CXA1592R	
IC295	8-759-356-56	IC uPD6461GS-819-GLG-E2	
IC296	8-759-079-53	IC TC74VHCT08F	
IC297	8-759-079-52	IC TC74VHC08F	
IC298	8-759-186-26	IC TC74VHC02F	
IC299	8-752-053-21	IC CXA1211M	
IC300	8-752-009-51	IC CX20095A	
IC301	8-752-072-86	IC CXA1822Q	
IC302	8-759-082-60	IC TC7S66FU	

< COIL >

Ref. No.	Part No.	Description	Remarks
L001	1-414-392-21	INDUCTOR 1uH	
L002	1-414-392-21	INDUCTOR 1uH	
L003	1-414-398-11	INDUCTOR 10uH	
L004	1-414-392-21	INDUCTOR 1uH	
L005	1-414-392-21	INDUCTOR 1uH	
L006	1-414-398-11	INDUCTOR 10uH	
L007	1-414-398-11	INDUCTOR 10uH	
L008	1-414-398-11	INDUCTOR 10uH	
L009	1-414-398-11	INDUCTOR 10uH	
L010	1-414-398-11	INDUCTOR 10uH	
L011	1-414-398-11	INDUCTOR 10uH	
L012	1-414-398-11	INDUCTOR 10uH	
L013	1-414-398-11	INDUCTOR 10uH	
L014	1-414-398-11	INDUCTOR 10uH	
L015	1-414-398-11	INDUCTOR 10uH	
L016	1-414-398-11	INDUCTOR 10uH	
L017	1-414-398-11	INDUCTOR 10uH	
L018	1-414-392-21	INDUCTOR 1uH	
L019	1-414-392-21	INDUCTOR 1uH	
L021	1-414-398-11	INDUCTOR 10uH	
L201	1-414-398-11	INDUCTOR 10uH	
L202	1-414-398-11	INDUCTOR 10uH	
L203	1-414-398-11	INDUCTOR 10uH	
L205	1-411-275-21	COIL, VARIABLE	
L206	1-414-398-11	INDUCTOR 10uH	
L207	1-414-392-21	INDUCTOR 1uH	
L208	1-414-392-21	INDUCTOR 1uH	
L209	1-414-392-21	INDUCTOR 1uH	
L210	1-414-392-21	INDUCTOR 1uH	
L211	1-414-392-21	INDUCTOR 1uH	
L212	1-414-392-21	INDUCTOR 1uH	
L213	1-414-392-21	INDUCTOR 1uH	
L290	1-414-398-11	INDUCTOR 10uH	
L291	1-414-398-11	INDUCTOR 10uH	
L292	1-414-398-11	INDUCTOR 10uH	
L293	1-414-398-11	INDUCTOR 10uH	
L294	1-414-398-11	INDUCTOR 10uH	
L295	1-414-398-11	INDUCTOR 10uH	
L298	1-414-398-11	INDUCTOR 10uH	
L299	1-414-398-11	INDUCTOR 10uH	
L300	1-412-063-21	INDUCTOR CHIP 68uH	
L301	1-414-392-21	INDUCTOR 1uH	
L302	1-414-398-11	INDUCTOR 10uH	

< TRANSISTOR >

Ref. No.	Part No.	Description	Remarks
Q001	8-729-427-70	TRANSISTOR XP4401	
Q002	8-729-427-70	TRANSISTOR XP4401	
Q003	8-729-427-70	TRANSISTOR XP4401	
Q011	8-729-429-18	TRANSISTOR UN9213	
Q290	8-729-106-60	TRANSISTOR 2SB1115A	
Q291	8-729-429-14	TRANSISTOR UN9211	
Q292	8-729-427-74	TRANSISTOR XP4601	
Q293	8-729-427-74	TRANSISTOR XP4601	
Q294	8-729-427-74	TRANSISTOR XP4601	
Q295	8-729-427-74	TRANSISTOR XP4601	
Q296	8-729-427-80	TRANSISTOR XP6401	
Q297	8-729-425-50	TRANSISTOR 2SB1462-Q	
Q298	8-729-425-64	TRANSISTOR 2SD2216-Q	
Q301	8-729-425-50	TRANSISTOR 2SB1462-Q	
Q302	8-729-425-50	TRANSISTOR 2SB1462-Q	
Q303	8-729-425-50	TRANSISTOR 2SB1462-Q	
Q304	8-729-428-88	TRANSISTOR UN9113	
Q305	8-729-429-18	TRANSISTOR UN9213	
Q306	8-729-427-80	TRANSISTOR XP6401	
Q307	8-729-106-60	TRANSISTOR 2SB1115A	

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Ref. No.	Part No.	Description				Remarks
Q308	8-729-425-64	TRANSISTOR	2SD2216-Q			
Q309	8-729-425-50	TRANSISTOR	2SB1462-Q			
Q312	8-729-425-64	TRANSISTOR	2SD2216-Q			
Q313	8-729-425-50	TRANSISTOR	2SB1462-Q			
		< RESISTOR >				
R001	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R002	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R003	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R004	1-216-857-11	METAL CHIP	1M	5%	1/16W	
R005	1-216-857-11	METAL CHIP	1M	5%	1/16W	
R006	1-216-857-11	METAL CHIP	1M	5%	1/16W	
R007	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R008	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R009	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R010	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R011	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R012	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R013	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R016	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R017	1-216-851-11	METAL CHIP	330K	5%	1/16W	
R018	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R019	1-216-857-11	METAL CHIP	1M	5%	1/16W	
R020	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R021	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R022	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R023	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R024	1-218-847-11	METAL CHIP	1K	0.50%	1/16W	
R025	1-218-876-11	METAL CHIP	16K	0.50%	1/16W	
R026	1-218-871-11	METAL CHIP	10K	0.50%	1/16W	
R028	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R029	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R030	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R031	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R032	1-216-864-11	METAL CHIP	0	5%	1/16W	
R037	1-216-805-11	METAL CHIP	47	5%	1/16W	
R038	1-216-805-11	METAL CHIP	47	5%	1/16W	
R039	1-216-805-11	METAL CHIP	47	5%	1/16W	
R040	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R041	1-216-807-11	METAL CHIP	68	5%	1/16W	
R042	1-216-807-11	METAL CHIP	68	5%	1/16W	
R043	1-216-807-11	METAL CHIP	68	5%	1/16W	
R047	1-218-877-11	METAL CHIP	18K	0.50%	1/16W	
R049	1-216-864-11	METAL CHIP	0	5%	1/16W	
R056	1-218-851-11	METAL CHIP	1.5K	0.50%	1/16W	
R058	1-218-889-11	METAL CHIP	56K	0.50%	1/16W	
R059	1-218-851-11	METAL CHIP	1.5K	0.50%	1/16W	
R060	1-218-889-11	METAL CHIP	56K	0.50%	1/16W	
R062	1-218-851-11	METAL CHIP	1.5K	0.50%	1/16W	
R063	1-218-889-11	METAL CHIP	56K	0.50%	1/16W	
R065	1-216-864-11	METAL CHIP	0	5%	1/16W	
R066	1-216-864-11	METAL CHIP	0	5%	1/16W	
R068	1-216-864-11	METAL CHIP	0	5%	1/16W	
R202	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R205	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R207	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R208	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R209	1-216-849-11	METAL CHIP	220K	5%	1/16W	
R212	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R214	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R215	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R217	1-216-864-11	METAL CHIP	0	5%	1/16W	(DSR-200)
R219	1-216-864-11	METAL CHIP	0	5%	1/16W	
R220	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R221	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R228	1-216-864-11	METAL CHIP	0	5%	1/16W	
R229	1-216-864-11	METAL CHIP	0	5%	1/16W	(DSR-200)
R230	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R231	1-216-864-11	METAL CHIP	0	5%	1/16W	(DSR-200P)
R232	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R233	1-216-864-11	METAL CHIP	0	5%	1/16W	
R235	1-216-864-11	METAL CHIP	0	5%	1/16W	
R236	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R239	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R240	1-216-864-11	METAL CHIP	0	5%	1/16W	
R241	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R242	1-216-864-11	METAL CHIP	0	5%	1/16W	
R244	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R245	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R251	1-216-864-11	METAL CHIP	0	5%	1/16W	
R257	1-216-830-11	METAL CHIP	5.6K	5%	1/16W	
R260	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R266	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R268	1-216-864-11	METAL CHIP	0	5%	1/16W	
R272	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R278	1-216-864-11	METAL CHIP	0	5%	1/16W	
R283	1-216-864-11	METAL CHIP	0	5%	1/16W	
R284	1-216-864-11	METAL CHIP	0	5%	1/16W	
R290	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R291	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R292	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R293	1-216-815-11	METAL CHIP	330	5%	1/16W	
R294	1-216-815-11	METAL CHIP	330	5%	1/16W	
R295	1-216-815-11	METAL CHIP	330	5%	1/16W	
R296	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R297	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R298	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R299	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R300	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R301	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R302	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R303	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R304	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R305	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R306	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R308	1-216-853-11	METAL CHIP	470K	5%	1/16W	
R309	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R310	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	
R311	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	
R312	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	
R314	1-216-814-11	METAL CHIP	270	5%	1/16W	

Ref. No.	Part No.	Description			Remarks
R315	1-216-821-11	METAL CHIP	1K	5%	1/16W
R316	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R317	1-216-864-11	METAL CHIP	0	5%	1/16W
R318	1-216-815-11	METAL CHIP	330	5%	1/16W
R319	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R320	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R321	1-216-821-11	METAL CHIP	1K	5%	1/16W
R322	1-216-845-11	METAL CHIP	100K	5%	1/16W
R323	1-216-821-11	METAL CHIP	1K	5%	1/16W
R324	1-216-821-11	METAL CHIP	1K	5%	1/16W
R325	1-216-845-11	METAL CHIP	100K	5%	1/16W
R326	1-216-864-11	METAL CHIP	0	5%	1/16W
R328	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R329	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R330	1-216-833-11	METAL CHIP	10K	5%	1/16W
R332	1-216-833-11	METAL CHIP	10K	5%	1/16W
R342	1-216-833-11	METAL CHIP	10K	5%	1/16W
R343	1-216-833-11	METAL CHIP	10K	5%	1/16W
R344	1-216-833-11	METAL CHIP	10K	5%	1/16W
R345	1-216-833-11	METAL CHIP	10K	5%	1/16W
R346	1-216-833-11	METAL CHIP	10K	5%	1/16W
R347	1-216-833-11	METAL CHIP	10K	5%	1/16W
R348	1-216-833-11	METAL CHIP	10K	5%	1/16W
R349	1-216-833-11	METAL CHIP	10K	5%	1/16W
R351	1-216-864-11	METAL CHIP	0	5%	1/16W (DSR-200)
R352	1-216-864-11	METAL CHIP	0	5%	1/16W (DSR-200P)
R354	1-216-864-11	METAL CHIP	0	5%	1/16W
R361	1-216-839-11	METAL CHIP	33K	5%	1/16W
R362	1-216-864-11	METAL CHIP	0	5%	1/16W (DSR-200P)
R363	1-216-864-11	METAL CHIP	0	5%	1/16W (DSR-200)
R364	1-216-837-11	METAL CHIP	22K	5%	1/16W
R365	1-216-821-11	METAL CHIP	1K	5%	1/16W
R367	1-216-821-11	METAL CHIP	1K	5%	1/16W
R368	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
R369	1-216-821-11	METAL CHIP	1K	5%	1/16W
R372	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R373	1-216-833-11	METAL CHIP	10K	5%	1/16W
R374	1-216-845-11	METAL CHIP	100K	5%	1/16W
R375	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R376	1-216-821-11	METAL CHIP	1K	5%	1/16W
R377	1-216-807-11	METAL CHIP	68	5%	1/16W
R378	1-216-815-11	METAL CHIP	330	5%	1/16W
R379	1-216-853-11	METAL CHIP	470K	5%	1/16W
R380	1-216-853-11	METAL CHIP	470K	5%	1/16W
R381	1-216-845-11	METAL CHIP	100K	5%	1/16W
R382	1-216-841-11	METAL CHIP	47K	5%	1/16W
R383	1-216-833-11	METAL CHIP	10K	5%	1/16W
R384	1-216-807-11	METAL CHIP	68	5%	1/16W
R385	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R386	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R387	1-216-807-11	METAL CHIP	68	5%	1/16W
R388	1-216-845-11	METAL CHIP	100K	5%	1/16W
R389	1-216-841-11	METAL CHIP	47K	5%	1/16W
R390	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R391	1-216-791-11	METAL CHIP	3.3	5%	1/16W

Ref. No.	Part No.	Description			Remarks
R392	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R393	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R394	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R395	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
		< VIBRATOR >			
X001	1-760-657-21	VIBRATOR, CERAMIC 28.375MHz			
X002	1-760-320-11	VIBRATOR, CRYSTAL 28.6363MHz (DSR-200)			
X002	1-760-321-11	VIBRATOR, CRYSTAL 28.375MHz (DSR-200P)			
X201	1-579-738-21	VIBRATOR, CRYSTAL 14.318MHz (DSR-200)			
X201	1-579-780-21	VIBRATOR, CRYSTAL 14.1875MHz (DSR-200P)			

Ref. No.	Part No.	Description			Remarks
	A-7072-884-A	CD-160 BOARD, COMPLETE (DSR-2O0P) **********************			
	A-7073-008-A	CD-160 BOARD, COMPLETE (DSR-2O0) **********************			
					(Ref.No.3,000 Series)
		< CAPACITOR >			
C201	1-104-852-11	TANTAL. CHIP	22uF	20%	10V
C202	1-104-852-11	TANTAL. CHIP	22uF	20%	10V
C203	1-104-852-11	TANTAL. CHIP	22uF	20%	10V
C204	1-104-912-11	TANTAL. CHIP	3.3uF	20%	16V
C206	1-104-912-11	TANTAL. CHIP	3.3uF	20%	16V
C208	1-104-912-11	TANTAL. CHIP	3.3uF	20%	16V
C210	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C211	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C212	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C213	1-104-908-11	TANTAL. CHIP	47uF	20%	4V
C214	1-104-848-11	TANTAL. CHIP	100uF	20%	4V
C215	1-104-848-11	TANTAL. CHIP	100uF	20%	4V
C216	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C217	1-104-917-11	TANTAL. CHIP	15uF	20%	20V
C218	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C219	1-104-917-11	TANTAL. CHIP	15uF	20%	20V
C220	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C221	1-104-917-11	TANTAL. CHIP	15uF	20%	20V
C222	1-104-908-11	TANTAL. CHIP	47uF	20%	4V
		< CONNECTOR >			
* CN201	1-764-396-21	CONNECTOR, BOARD TO BOARD 42P			
		< COIL >			
L201	1-412-032-11	INDUCTOR CHIP 100uH			
L202	1-412-032-11	INDUCTOR CHIP 100uH			
L203	1-412-032-11	INDUCTOR CHIP 100uH			
		< TRANSISTOR >			
Q201	8-729-232-86	TRANSISTOR 2SK1875			
Q202	8-729-232-86	TRANSISTOR 2SK1875			
Q203	8-729-232-86	TRANSISTOR 2SK1875			

Ref. No.	Part No.	Description			Remarks
		< RESISTOR >			
R201	1-216-840-11	METAL CHIP	39K	5%	1/16W
R202	1-216-840-11	METAL CHIP	39K	5%	1/16W
R203	1-216-840-11	METAL CHIP	39K	5%	1/16W
R204	1-216-820-11	METAL CHIP	820	5%	1/16W
R205	1-216-820-11	METAL CHIP	820	5%	1/16W
R206	1-216-820-11	METAL CHIP	820	5%	1/16W
R207	1-216-845-11	METAL CHIP	100K	5%	1/16W
R208	1-216-845-11	METAL CHIP	100K	5%	1/16W
R209	1-216-845-11	METAL CHIP	100K	5%	1/16W
R210	1-216-828-11	METAL CHIP	3.9K	5%	1/16W
R211	1-216-809-11	METAL CHIP	100	5%	1/16W
R212	1-216-828-11	METAL CHIP	3.9K	5%	1/16W
R213	1-216-809-11	METAL CHIP	100	5%	1/16W
R214	1-216-828-11	METAL CHIP	3.9K	5%	1/16W
R215	1-216-809-11	METAL CHIP	100	5%	1/16W

Ref. No.	Part No.	Description			Remarks
	A-7066-434-A	DD-75 BOARD, COMPLETE (DSR-200) *********************			
	A-7066-612-A	DD-75P BOARD, COMPLETE (DSR-200P) **********************			
					(Ref.No.6,000 Series)
	1-656-386-11	FP-199 FLEXIBLE BOARD			
		< CAPACITOR >			
C001	1-165-178-11	CERAMIC CHIP	6.8uF		16V
C002	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C003	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C004	1-165-178-11	CERAMIC CHIP	6.8uF		16V
C005	1-104-914-11	TANTAL. CHIP	22uF	20%	16V
C006	1-104-914-11	TANTAL. CHIP	22uF	20%	16V
C007	1-104-914-11	TANTAL. CHIP	22uF	20%	16V
C008	1-104-914-11	TANTAL. CHIP	22uF	20%	16V
C009	1-104-823-11	TANTAL. CHIP	47uF	20%	16V
C010	1-104-914-11	TANTAL. CHIP	22uF	20%	16V
C011	1-165-178-11	CERAMIC CHIP	6.8uF		16V
C012	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C013	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C014	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C015	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C016	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C017	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C018	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C019	1-165-178-11	CERAMIC CHIP	6.8uF		16V
C020	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C021	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C022	1-165-178-11	CERAMIC CHIP	6.8uF		16V
C023	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C024	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C025	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C026	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C027	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C028	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C029	1-165-178-11	CERAMIC CHIP	6.8uF		16V
C030	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C031	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C032	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C033	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C034	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C035	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C036	1-164-363-11	CERAMIC CHIP	560PF	5%	50V
C037	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C038	1-113-986-11	TANTAL. CHIP	2.2uF	20%	25V
C039	1-164-821-11	CERAMIC CHIP	3.3uF	10%	16V
C040	1-164-821-11	CERAMIC CHIP	3.3uF	10%	16V
C041	1-104-915-11	TANTAL. CHIP	2.2uF	20%	20V
C042	1-164-363-11	CERAMIC CHIP	560PF	5%	50V
C043	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C044	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C045	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C046	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C047	1-165-128-11	CERAMIC CHIP	0.22uF		16V
C048	1-165-178-11	CERAMIC CHIP	6.8uF		16V
C049	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C050	1-164-816-11	CERAMIC CHIP	220PF	2%	50V
C051	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C052	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C053	1-165-178-11	CERAMIC CHIP	6.8uF		16V
C054	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C055	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C056	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C057	1-165-178-11	CERAMIC CHIP	6.8uF		16V
C058	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C059	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C060	1-165-178-11	CERAMIC CHIP	6.8uF		16V
C061	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C062	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C063	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C064	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C065	1-165-178-11	CERAMIC CHIP	6.8uF		16V
C066	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C067	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C068	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C069	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C070	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C071	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C072	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C073	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C074	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C075	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C076	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C077	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C078	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C079	1-165-178-11	CERAMIC CHIP	6.8uF		16V
C080	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C081	1-165-178-11	CERAMIC CHIP	6.8uF		16V
C082	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C083	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C084	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C085	1-165-178-11	CERAMIC CHIP	6.8uF		16V

Ref. No.	Part No.	Description			Remarks
C086	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C087	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C088	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C089	1-164-821-11	CERAMIC CHIP	3.3uF	10%	16V
C090	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C091	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C092	1-165-128-11	CERAMIC CHIP	0.22uF		16V
C093	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C094	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C095	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C096	1-165-178-11	CERAMIC CHIP	6.8uF		16V
C097	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C098	1-165-178-11	CERAMIC CHIP	6.8uF		16V
C099	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C100	1-104-914-11	TANTAL. CHIP	22uF	20%	16V
C101	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C102	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C103	1-164-346-11	CERAMIC CHIP	1uF		16V
C201	1-164-156-11	CERAMIC CHIP	0.1uF		25V
		< CONNECTOR >			
CN001	1-770-542-21	CONNECTOR, FFC/FPC 40P			
CN002	1-770-542-21	CONNECTOR, FFC/FPC 40P			
* CN003	1-770-452-21	CONNECTOR, BOARD TO BOARD 30P			
CN200	1-770-585-11	PIN, CONNECTOR (PC BOARD) 3P			
* CN201	1-580-756-21	PIN, CONNECTOR 7P			
		< DIODE >			
D001	8-719-404-49	DIODE MA111			
D002	8-719-989-33	DIODE FC806			
D003	8-719-938-75	DIODE SB05-05CP			
D202	8-719-056-23	DIODE MA2S111-(K8).SO			
D203	8-719-056-23	DIODE MA2S111-(K8).SO			
D204	8-719-056-23	DIODE MA2S111-(K8).SO			
D205	8-719-050-39	DIODE RD2.7UM-T1B			
D206	8-719-056-23	DIODE MA2S111-(K8).SO			
D207	8-719-421-27	DIODE MA728			
D208	8-719-421-27	DIODE MA728			
		< FUSE >			
⚠F001	1-533-604-21	FUSE (SMD) 1.4A (DSR-200)			
⚠F002	1-533-604-21	FUSE (SMD) 1.4A (DSR-200)			
⚠F003	1-533-604-21	FUSE (SMD) 1.4A (DSR-200)			
⚠F004	1-533-604-21	FUSE (SMD) 1.4A (DSR-200)			
⚠F005	1-533-604-21	FUSE (SMD) 1.4A (DSR-200)			
⚠F006	1-533-604-21	FUSE (SMD) 1.4A (DSR-200)			
		< IC >			
IC001	8-759-328-27	IC SN104230PM			
IC002	8-759-328-27	IC SN104230PM			
IC200	8-759-998-92	IC LM393D			

Ref. No.	Part No.	Description	Remarks
		< COIL >	
L001	1-414-396-21	INDUCTOR 4.7uH	
L002	1-414-396-21	INDUCTOR 4.7uH	
L003	1-424-674-11	COIL, CHOKE 22uH	
L004	1-406-823-11	COIL, CHOKE 10uH	
L005	1-414-396-21	INDUCTOR 4.7uH	
L006	1-424-674-11	COIL, CHOKE 22uH	
L007	1-414-396-21	INDUCTOR 4.7uH	
L008	1-414-396-21	INDUCTOR 4.7uH	
L009	1-406-825-11	COIL, CHOKE 33uH	
L010	1-406-823-11	COIL, CHOKE 10uH	
L011	1-414-396-21	INDUCTOR 4.7uH	
L012	1-414-396-21	INDUCTOR 4.7uH	
L013	1-414-396-21	INDUCTOR 4.7uH	
L014	1-424-674-11	COIL, CHOKE 22uH	
L015	1-414-396-21	INDUCTOR 4.7uH	
L016	1-414-406-11	INDUCTOR 220uH	
L017	1-406-823-11	COIL, CHOKE 10uH	
L018	1-414-406-11	INDUCTOR 220uH	
L019	1-414-396-21	INDUCTOR 4.7uH	
L020	1-414-396-21	INDUCTOR 4.7uH	
L021	1-424-674-11	COIL, CHOKE 22uH	
L022	1-414-396-21	INDUCTOR 4.7uH	
L023	1-414-396-21	INDUCTOR 4.7uH	
L024	1-414-396-21	INDUCTOR 4.7uH	
L025	1-424-674-11	COIL, CHOKE 22uH	
L026	1-406-823-11	COIL, CHOKE 10uH	
L027	1-414-396-21	INDUCTOR 4.7uH	
L028	1-414-396-21	INDUCTOR 4.7uH	
L029	1-424-674-11	COIL, CHOKE 22uH	
L030	1-414-396-21	INDUCTOR 4.7uH	
L031	1-414-396-21	INDUCTOR 4.7uH	
L032	1-406-825-11	COIL, CHOKE 33uH	
L033	1-406-823-11	COIL, CHOKE 10uH	
L034	1-406-825-11	COIL, CHOKE 33uH	
L035	1-406-823-11	COIL, CHOKE 10uH	
L036	1-414-402-11	INDUCTOR 47uH	
L037	1-406-825-11	COIL, CHOKE 33uH	
		< IC LINK >	
⚠PS001	1-576-122-21	LINK, IC 400mA	
⚠PS002	1-576-122-21	LINK, IC 400mA	
⚠PS011	1-533-640-21	LINK, IC (SMD) 1400mA (DSR-200P)	
⚠PS012	1-533-640-21	LINK, IC (SMD) 1400mA (DSR-200P)	
⚠PS013	1-533-640-21	LINK, IC (SMD) 1400mA (DSR-200P)	

Note :	**Note :**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remarks
⚠PS014	1-533-640-21	LINK, IC (SMD) 1400mA (DSR-200P)	
⚠PS015	1-533-640-21	LINK, IC (SMD) 1400mA (DSR-200P)	
⚠PS016	1-533-640-21	LINK, IC (SMD) 1400mA (DSR-200P)	
		< TRANSISTOR >	
Q001	8-729-030-78	TRANSISTOR FP102T-TL	
Q002	8-729-030-75	TRANSISTOR 2SK2316-TD	
Q003	8-729-030-78	TRANSISTOR FP102T-TL	
Q004	8-729-030-75	TRANSISTOR 2SK2316-TD	
Q005	8-729-032-00	TRANSISTOR 2SJ381-TD	
Q006	8-729-030-78	TRANSISTOR FP102T-TL	
Q007	8-729-037-74	TRANSISTOR UN9213J-(TX).SO	
Q008	8-729-030-78	TRANSISTOR FP102T-TL	
Q009	8-729-428-88	TRANSISTOR UN9113	
Q010	8-729-428-88	TRANSISTOR UN9113	
Q011	8-729-023-85	TRANSISTOR 2SJ168	
Q012	8-729-015-47	TRANSISTOR 2SK1062	
Q013	8-729-037-74	TRANSISTOR UN9213J-(TX).SO	
Q014	8-729-025-81	TRANSISTOR 2SA1729-RS-TD	
Q015	8-729-030-78	TRANSISTOR FP102T-TL	
Q016	8-729-030-78	TRANSISTOR FP102T-TL	
Q017	8-729-030-75	TRANSISTOR 2SK2316-TD	
Q018	8-729-030-78	TRANSISTOR FP102T-TL	
Q019	8-729-030-75	TRANSISTOR 2SK2316-TD	
Q020	8-729-030-78	TRANSISTOR FP102T-TL	
Q021	8-729-030-78	TRANSISTOR FP102T-TL	
Q022	8-729-025-81	TRANSISTOR 2SA1729-RS-TD	
Q023	8-729-030-78	TRANSISTOR FP102T-TL	
Q024	8-729-427-23	TRANSISTOR XP4116-TXE	
Q025	8-729-427-23	TRANSISTOR XP4116-TXE	
Q026	8-729-427-45	TRANSISTOR XP4212-TXE	
Q027	8-729-023-32	TRANSISTOR 2SK2037	
Q028	8-729-023-32	TRANSISTOR 2SK2037	
Q029	8-729-427-70	TRANSISTOR XP4401	
Q200	8-729-024-24	TRANSISTOR 2SK2154-TL	
Q201	8-729-024-24	TRANSISTOR 2SK2154-TL	
Q203	8-729-037-74	TRANSISTOR UN9213J-(TX).SO	
Q204	8-729-425-50	TRANSISTOR 2SB1462-Q	
Q205	8-729-425-50	TRANSISTOR 2SB1462-Q	
Q206	8-729-428-88	TRANSISTOR UN9113	
Q207	8-729-037-69	TRANSISTOR UN911EJ-(TX).SO	
Q208	8-729-428-88	TRANSISTOR UN9113	
Q209	8-729-822-05	TRANSISTOR 2SD1622-ST-TD	
Q210	8-729-425-50	TRANSISTOR 2SB1462-Q	
Q211	8-729-425-50	TRANSISTOR 2SB1462-Q	
Q213	8-729-427-46	TRANSISTOR XP4213	
Q214	8-729-425-64	TRANSISTOR 2SD2216J-Q	
Q215	8-729-427-46	TRANSISTOR XP4213	
Q216	8-729-427-46	TRANSISTOR XP4213	
Q217	8-729-427-46	TRANSISTOR XP4213	

Ref. No.	Part No.	Description			Remarks
		< RESISTOR >			
R001	1-216-845-11	METAL CHIP	100K	5%	1/16W
R002	1-216-837-11	METAL CHIP	22K	5%	1/16W
R003	1-216-837-11	METAL CHIP	22K	5%	1/16W
R004	1-216-837-11	METAL CHIP	22K	5%	1/16W
R005	1-216-830-11	METAL CHIP	5.6K	5%	1/16W
R006	1-216-833-11	METAL CHIP	10K	5%	1/16W
R007	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R008	1-218-859-11	METAL CHIP	3.3K	0.50%	1/16W
R009	1-211-969-11	METAL GLAZE	10	0.50%	1/16W
R010	1-216-845-11	METAL CHIP	100K	5%	1/16W
R011	1-216-837-11	METAL CHIP	22K	5%	1/16W
R012	1-218-875-11	METAL CHIP	15K	0.50%	1/16W
R013	1-216-837-11	METAL CHIP	22K	5%	1/16W
R014	1-218-855-11	METAL CHIP	2.2K	0.50%	1/16W
R015	1-218-875-11	METAL CHIP	15K	0.50%	1/16W
R016	1-218-855-11	METAL CHIP	2.2K	0.50%	1/16W
R017	1-218-877-11	METAL CHIP	18K	0.50%	1/16W
R018	1-218-877-11	METAL CHIP	18K	0.50%	1/16W
R019	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R020	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R021	1-218-883-11	METAL CHIP	33K	0.50%	1/16W
R022	1-216-864-11	METAL CHIP	0	5%	1/16W
R023	1-218-869-11	METAL CHIP	8.2K	0.50%	1/16W
R024	1-218-863-11	METAL CHIP	4.7K	0.50%	1/16W
R025	1-218-877-11	METAL CHIP	18K	0.50%	1/16W
R026	1-218-873-11	METAL CHIP	12K	0.50%	1/16W
R027	1-216-833-11	METAL CHIP	10K	5%	1/16W
R028	1-216-837-11	METAL CHIP	22K	5%	1/16W
R029	1-218-879-11	METAL CHIP	22K	0.50%	1/16W
R030	1-216-842-11	METAL CHIP	56K	5%	1/16W
R031	1-216-841-11	METAL CHIP	47K	5%	1/16W
R032	1-216-837-11	METAL CHIP	22K	5%	1/16W
R033	1-216-864-11	METAL CHIP	0	5%	1/16W
R034	1-218-885-11	METAL CHIP	39K	0.50%	1/16W
R035	1-218-897-11	METAL CHIP	120K	0.50%	1/16W
R036	1-218-867-11	METAL CHIP	6.8K	0.50%	1/16W
R037	1-218-861-11	METAL CHIP	3.9K	0.50%	1/16W
R038	1-216-845-11	METAL CHIP	100K	5%	1/16W
R039	1-216-845-11	METAL CHIP	100K	5%	1/16W
R040	1-218-877-11	METAL CHIP	18K	0.50%	1/16W
R041	1-218-879-11	METAL CHIP	22K	0.50%	1/16W
R042	1-216-830-11	METAL CHIP	5.6K	5%	1/16W
R043	1-216-830-11	METAL CHIP	5.6K	5%	1/16W
R044	1-216-837-11	METAL CHIP	22K	5%	1/16W
R045	1-211-960-11	METAL GLAZE	22	0.50%	1/10W
R046	1-218-887-11	METAL CHIP	47K	0.50%	1/16W
R047	1-218-865-11	METAL CHIP	5.6K	0.50%	1/16W
R048	1-218-887-11	METAL CHIP	47K	0.50%	1/16W
R049	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R050	1-218-879-11	METAL CHIP	22K	0.50%	1/16W

Note : The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	**Note :** Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description			Remarks
R051	1-218-875-11	METAL CHIP	15K	0.50%	1/16W
R052	1-218-887-11	METAL CHIP	47K	0.50%	1/16W
R053	1-216-833-11	METAL CHIP	10K	5%	1/16W
R054	1-218-875-11	METAL CHIP	15K	0.50%	1/16W
R055	1-218-855-11	METAL CHIP	2.2K	0.50%	1/16W
R056	1-218-831-11	METAL GLAZE	220	0.50%	1/16W
R057	1-218-877-11	METAL CHIP	18K	0.50%	1/16W
R058	1-216-845-11	METAL CHIP	100K	5%	1/16W
R059	1-216-837-11	METAL CHIP	22K	5%	1/16W
R060	1-216-837-11	METAL CHIP	22K	5%	1/16W
R061	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R062	1-218-881-11	METAL CHIP	27K	0.50%	1/16W
R063	1-216-837-11	METAL CHIP	22K	5%	1/16W
R064	1-216-837-11	METAL CHIP	22K	5%	1/16W
R065	1-218-879-11	METAL CHIP	22K	0.50%	1/16W
R066	1-218-871-11	METAL CHIP	10K	0.50%	1/16W
R067	1-216-837-11	METAL CHIP	22K	5%	1/16W
R068	1-218-855-11	METAL CHIP	2.2K	0.50%	1/16W
R069	1-218-875-11	METAL CHIP	15K	0.50%	1/16W
R070	1-216-864-11	METAL CHIP	0	5%	1/16W
R071	1-218-873-11	METAL CHIP	12K	0.50%	1/16W
R072	1-218-877-11	METAL CHIP	18K	0.50%	1/16W
R073	1-218-879-11	METAL CHIP	22K	0.50%	1/16W
R074	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R075	1-216-830-11	METAL CHIP	5.6K	5%	1/16W
R076	1-218-859-11	METAL CHIP	3.3K	0.50%	1/16W
R077	1-218-883-11	METAL CHIP	33K	0.50%	1/16W
R078	1-216-864-11	METAL CHIP	0	5%	1/16W
R079	1-218-871-11	METAL CHIP	10K	0.50%	1/16W
R080	1-218-883-11	METAL CHIP	33K	0.50%	1/16W
R081	1-218-877-11	METAL CHIP	18K	0.50%	1/16W
R082	1-218-881-11	METAL CHIP	27K	0.50%	1/16W
R083	1-216-833-11	METAL CHIP	10K	5%	1/16W
R084	1-216-833-11	METAL CHIP	10K	5%	1/16W
R085	1-218-883-11	METAL CHIP	33K	0.50%	1/16W
R086	1-218-885-11	METAL CHIP	39K	0.50%	1/16W
R087	1-216-864-11	METAL CHIP	0	5%	1/16W
R088	1-218-879-11	METAL CHIP	22K	0.50%	1/16W
R089	1-216-830-11	METAL CHIP	5.6K	5%	1/16W
R090	1-216-830-11	METAL CHIP	5.6K	5%	1/16W
R091	1-218-879-11	METAL CHIP	22K	0.50%	1/16W
R092	1-216-841-11	METAL CHIP	47K	5%	1/16W
R093	1-218-865-11	METAL CHIP	5.6K	0.50%	1/16W
R094	1-218-887-11	METAL CHIP	47K	0.50%	1/16W
R095	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R096	1-218-877-11	METAL CHIP	18K	0.50%	1/16W
R097	1-218-887-11	METAL CHIP	47K	0.50%	1/16W
R098	1-218-875-11	METAL CHIP	15K	0.50%	1/16W
R099	1-218-855-11	METAL CHIP	2.2K	0.50%	1/16W
R100	1-218-857-11	METAL CHIP	2.7K	0.50%	1/16W
R101	1-218-877-11	METAL CHIP	18K	0.50%	1/16W
R102	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R103	1-216-864-11	METAL CHIP	0	5%	1/16W
R105	1-216-841-11	METAL CHIP	47K	5%	1/16W
R106	1-216-840-11	METAL CHIP	39K	5%	1/16W

Ref. No.	Part No.	Description			Remarks
R200	1-216-845-11	METAL CHIP	100K	5%	1/16W
R201	1-216-845-11	METAL CHIP	100K	5%	1/16W
R202	1-216-821-11	METAL CHIP	1K	5%	1/16W
R204	1-216-841-11	METAL CHIP	47K	5%	1/16W
R205	1-216-833-11	METAL CHIP	10K	5%	1/16W
R206	1-216-842-11	METAL CHIP	56K	5%	1/16W
R207	1-216-848-11	METAL CHIP	180K	5%	1/16W
R208	1-216-841-11	METAL CHIP	47K	5%	1/16W
R209	1-216-841-11	METAL CHIP	47K	5%	1/16W
R210	1-216-845-11	METAL CHIP	100K	5%	1/16W
R211	1-216-853-11	METAL CHIP	470K	5%	1/16W
R212	1-216-845-11	METAL CHIP	100K	5%	1/16W
R213	1-216-857-11	METAL CHIP	1M	5%	1/16W
R214	1-216-837-11	METAL CHIP	22K	5%	1/16W
R215	1-216-845-11	METAL CHIP	100K	5%	1/16W
R216	1-216-833-11	METAL CHIP	10K	5%	1/16W
R217	1-218-863-11	METAL CHIP	4.7K	0.50%	1/16W
R218	1-216-837-11	METAL CHIP	22K	5%	1/16W
R219	1-216-841-11	METAL CHIP	47K	5%	1/16W
R220	1-216-837-11	METAL CHIP	22K	5%	1/16W
R221	1-216-841-11	METAL CHIP	47K	5%	1/16W
R222	1-218-889-11	METAL CHIP	56K	0.50%	1/16W
R223	1-216-841-11	METAL CHIP	47K	5%	1/16W
R224	1-218-863-11	METAL CHIP	4.7K	0.50%	1/16W
R225	1-216-864-11	METAL CHIP	0	5%	1/16W
R226	1-218-891-11	METAL CHIP	68K	0.50%	1/16W
R227	1-216-841-11	METAL CHIP	47K	5%	1/16W
R228	1-216-799-11	METAL CHIP	15	5%	1/16W
R230	1-216-839-11	METAL CHIP	33K	5%	1/16W
R231	1-211-987-11	METAL GLAZE	56	0.50%	1/16W
R232	1-218-879-11	METAL CHIP	22K	0.50%	1/16W
R233	1-218-831-11	METAL GLAZE	220	0.50%	1/16W
R236	1-216-809-11	METAL CHIP	100	5%	1/16W

< TRANSFORMER >

T001	1-427-916-21	TRANSFORMER, CONVERTER
T002	1-427-917-21	TRANSFORMER, CONVERTER

A-7072-893-A DS-74P BOARD, COMPLETE (DSR-200P)
****

A-7072-950-A DS-74 BOARD, COMPLETE (DSR-200)
****

(Ref.No.4,000 Series)

< CAPACITOR >

C151	1-164-346-11	CERAMIC CHIP	1uF	16V
C152	1-164-346-11	CERAMIC CHIP	1uF	16V

< CONNECTOR >

* CN151	1-580-756-21	PIN, CONNECTOR 7P
* CN152	1-580-056-21	PIN, CONNECTOR 3P

< DIODE >

D151	8-719-420-14	DIODE MA8082-M
D152	8-719-422-97	DIODE MA8091-M

DS-74 DV-27 ED-44 EJ-27 EM-10 FK-68

Ref. No.	Part No.	Description	Remarks
		< FUSE >	
△F151	1-533-604-21	FUSE (SMD) 1.4A (DSR-200)	
		< JACK >	
J151	1-770-497-11	CONNECTOR, (DC IN)	
		< IC LINK >	
△PS151	1-533-640-21	LINK, IC (SMD) 1400mA (DSR-200P)	
		< RESISTOR >	
R151	1-216-821-11	METAL CHIP 1K 5%	1/16W
R152	1-216-821-11	METAL CHIP 1K 5%	1/16W
	A-7072-894-A	DV-27 BOARD, COMPLETE **********************	
		(Ref.No.1,000 Series)	
		< CONNECTOR >	
CN250	1-580-789-21	PIN, CONNECTOR (SMD) 6P	
CN251	1-770-496-11	CONNECTOR, SQUARE TYPE 4P (DV OUT)	
	A-7072-897-A	ED-44 BOARD, COMPLETE (DSR-200) **********************	
	A-7072-972-A	ED-44 BOARD, COMPLETE (DSR-200P) **********************	
		(Ref.No.4,000 Series)	
		< CONNECTOR >	
* CN101	1-580-056-21	PIN, CONNECTOR 3P	
CN102	1-691-484-11	CONNECTOR, FFC/FPC 5P	
		< DIODE >	
D101	8-719-420-14	DIODE MA8082-M	
		< RESISTOR >	
R101	1-216-832-11	METAL CHIP 8.2K 5%	1/16W
R102	1-216-828-11	METAL CHIP 3.9K 5%	1/16W
R103	1-216-826-11	METAL CHIP 2.7K 5%	1/16W
R104	1-216-832-11	METAL CHIP 8.2K 5%	1/16W
R105	1-216-838-11	METAL CHIP 27K 5%	1/16W
		< SWITCH >	
S100	1-692-247-11	SWITCH, TACTIL (2 CLICK) (EDITSEARCH: -)	
S101	1-692-247-11	SWITCH, TACTIL (2 CLICK) (EDITSEARCH: +)	
	A-7072-974-A	EJ-27 BOARD, COMPLETE **********************	
		(Ref.No.4,000 Series)	
		< CONNECTOR >	
* CN910	1-580-056-21	PIN, CONNECTOR 3P	

Ref. No.	Part No.	Description	Remarks
		< DIODE >	
D910	8-719-420-14	DIODE MA8082-M	
D911	8-719-420-14	DIODE MA8082-M	
		< SWITCH >	
S910	1-692-088-11	SWITCH, TACTILE (EJECT)	
S911	1-572-467-21	SWITCH, PUSH (1 KEY) (BATTERY)	
	A-7072-890-A	EM-10 BOARD, COMPLETE **********************	
		(Ref.No.2,000 Series)	
		< CAPACITOR >	
C601	1-162-964-11	CERAMIC CHIP 0.001uF 5%	50V
		< CONNECTOR >	
CN601	1-691-491-21	CONNECTOR, FFC/FPC 12P	
CN602	1-691-487-21	CONNECTOR, FFC/FPC 8P	
		< DIODE >	
D601	8-719-404-49	DIODE MA111	
D602	8-719-422-70	DIODE MA8075	
D603	8-719-422-70	DIODE MA8075	
D604	8-719-422-70	DIODE MA8075	
D605	8-719-422-70	DIODE MA8075	
		< FERRITE BEAD >	
FB601	1-500-242-21	BEAD, FERRITE (CHIP)	
		< JACK >	
J601	1-569-810-21	JACK (SMALL TYPE)(MIC PLUG IN POWER)	
		< COIL >	
L601	1-412-939-11	INDUCTOR 1uH	
L602	1-412-939-11	INDUCTOR 1uH	
L603	1-412-939-11	INDUCTOR 1uH	
L604	1-412-939-11	INDUCTOR 1uH	
	A-7072-951-A	FK-68 BOARD, COMPLETE (DSR-200) **********************	
*	A-7073-007-A	FK-68P BOARD, COMPLETE (DSR-200P) ***********************	
		(Ref.No.4,000 Series)	
		< CONNECTOR >	
CN402	1-573-768-21	PIN, CONNECTOR (1.5MM) (SMD) 5P	
* CN403	1-764-177-11	PIN, CONNECTOR (SMD) (1.5MM) 7P	
CN404	1-691-550-11	PIN, CONNECTOR (1.5MM) (SMD) 3P	
* CN405	1-695-320-21	PIN, CONNECTOR (1.5MM) (SMD) 2P	
CN406	1-770-542-21	CONNECTOR, FFC/FPC 40P	

Note :	**Note :**
The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remarks
CN407	1-778-637-21	CONNECTOR, FFC/FPC (ZI) 50P	
* CN408	1-770-572-21	CONNECTOR, BOARD TO BOARD 30P	
CN410	1-750-358-21	CONNECTOR, FFC/FPC (ZIF) 30P	
		< DIODE >	
D401	8-719-989-53	DIODE CL-200HR-C-TSL (PEAK)	
D402	8-719-989-53	DIODE CL-200HR-C-TSL (PEAK)	
D406	8-719-059-99	DIODE CL-220TY-C-TS	
D407	8-719-059-99	DIODE CL-220TY-C-TS	
D408	8-719-059-99	DIODE CL-220TY-C-TS	
D409	8-719-059-99	DIODE CL-220TY-C-TS	
D410	8-719-059-99	DIODE CL-220TY-C-TS	
D411	8-719-059-99	DIODE CL-220TY-C-TS	
D412	8-719-059-99	DIODE CL-220TY-C-TS	
D413	8-719-059-99	DIODE CL-220TY-C-TS	
D414	8-719-059-99	DIODE CL-220TY-C-TS	
D415	8-719-059-99	DIODE CL-220TY-C-TS	
D416	8-719-420-14	DIODE MA8082-M	
D417	8-719-420-14	DIODE MA8082-M	
D418	8-719-420-14	DIODE MA8082-M	
D419	8-719-420-14	DIODE MA8082-M	
D420	8-719-420-14	DIODE MA8082-M	
D421	8-719-420-14	DIODE MA8082-M	
D422	8-719-420-14	DIODE MA8082-M	
D423	8-719-420-14	DIODE MA8082-M	
D424	8-719-420-14	DIODE MA8082-M	
D425	8-719-420-14	DIODE MA8082-M	
D426	8-719-420-14	DIODE MA8082-M	
D427	8-719-420-14	DIODE MA8082-M	
D428	8-719-420-14	DIODE MA8082-M	
D429	8-719-420-14	DIODE MA8082-M	
		< RESISTOR >	
R401	1-216-826-11	METAL CHIP 2.7K 5% 1/16W	
R402	1-216-828-11	METAL CHIP 3.9K 5% 1/16W	
R403	1-216-832-11	METAL CHIP 8.2K 5% 1/16W	
R405	1-216-815-11	METAL CHIP 330 5% 1/16W	
R406	1-216-815-11	METAL CHIP 330 5% 1/16W	
R407	1-216-826-11	METAL CHIP 2.7K 5% 1/16W	
R408	1-216-828-11	METAL CHIP 3.9K 5% 1/16W	
R410	1-216-826-11	METAL CHIP 2.7K 5% 1/16W	
R411	1-216-828-11	METAL CHIP 3.9K 5% 1/16W	
R412	1-216-832-11	METAL CHIP 8.2K 5% 1/16W	
R413	1-216-838-11	METAL CHIP 27K 5% 1/16W	
R415	1-216-826-11	METAL CHIP 2.7K 5% 1/16W	
R416	1-216-828-11	METAL CHIP 3.9K 5% 1/16W	
R417	1-216-832-11	METAL CHIP 8.2K 5% 1/16W	
R418	1-216-838-11	METAL CHIP 27K 5% 1/16W	
R430	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R431	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R434	1-216-826-11	METAL CHIP 2.7K 5% 1/16W	
R435	1-216-828-11	METAL CHIP 3.9K 5% 1/16W	
R437	1-216-864-11	METAL CHIP 0 5% 1/16W	
		< SWITCH >	
S401	1-762-650-21	SWITCH, SLIDE (AUDIO MODE)	
S402	1-762-650-21	SWITCH, SLIDE (SPEAKER)	
S404	1-570-858-11	SWITCH, SLIDE (STEADY SHOT)	
S406	1-762-650-21	SWITCH, SLIDE (REC LEVEL CH 1)	
S407	1-762-650-21	SWITCH, SLIDE (REC LEVEL CH 2)	
S408	1-570-858-11	SWITCH, SLIDE (DISPLAY LIGHT)	
S410	1-692-024-21	SWITCH, ROTARY (WHT BAL)	
S411	1-692-024-21	SWITCH, ROTARY (SHUTTER SPEED)	
S412	1-692-024-21	SWITCH, ROTARY (GAIN)	
S414	1-571-787-31	SWITCH, TACTILE (ZERO SET MEMORY)	
S415	1-762-648-21	SWITCH, SLIDE (AUDIO MONITOR)	
S417	1-570-858-11	SWITCH, SLIDE (DIGITAL MODE)	
	A-7072-902-A	FS-78 BOARD, COMPLETE ********************* (Ref.No.5,000 Series)	
		< CONNECTOR >	
CN601	1-569-775-21	PIN, CONNECTOR 5P	
		< DIODE >	
D601	8-719-420-14	DIODE MA8082-M	
D602	8-719-420-14	DIODE MA8082-M	
		< RESISTOR >	
R601	1-216-059-00	METAL CHIP 2.7K 5% 1/10W	
R602	1-216-828-11	METAL CHIP 3.9K 5% 1/16W	
		< SWITCH >	
S601	1-692-682-11	SWITCH,TACTILE (RUBBER)(WHITE BALANCE)	
S602	1-692-682-11	SWITCH,TACTILE (RUBBER)(FADER/OVERLAP)	
S603	1-692-682-11	SWITCH,TACTILE (RUBBER)(START/STOP)	
S604	1-571-787-31	SWITCH,TACTILE (CP CHECK)	
	A-7072-891-A	GP-14 BOARD, COMPLETE ********************* (Ref.No.5,000 Series)	
		< CONNECTOR >	
CN701	1-691-492-21	CONNECTOR, FFC/FPC 13P	
CN702	1-691-489-11	CONNECTOR, FFC/FPC 10P	
CN703	1-691-550-11	PIN, CONNECTOR (1.5MM) (SMD) 3P	
		< DIODE >	
D702	8-719-420-14	DIODE MA8082-M	
		< SPEAKER >	
SP701	1-529-107-11	BUZZER, PIEZOELECTRIC	

HR-11 JC-15

Ref. No.	Part No.	Description			Remarks
	A-7072-895-A	HR-11 BOARD, COMPLETE (DSR-200) *********************			
	A-7072-976-A	HR-11 BOARD, COMPLETE (DSR-200P) *********************			
					(Ref.No.4,000 Series)
		< CAPACITOR >			
C711	1-163-038-91	CERAMIC CHIP	0.1uF		25V
		< CONNECTOR >			
* CN711	1-580-056-21	PIN, CONNECTOR 3P			
		< IC >			
IC711	8-749-923-29	IC RS-20E-T			

Ref. No.	Part No.	Description			Remarks
	A-7066-915-A	JC-15 BOARD, COMPLETE (DSR-200) *********************			
*	A-7066-934-A	JC-15P BOARD, COMPLETE (DSR-200P) **********************			
					(Ref.No.1,000 Series)
		< CAPACITOR >			
C400	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V (DSR-200P)
C401	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C402	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C403	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C404	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C405	1-164-156-11	CERAMIC CHIP	0.1uF		25V (DSR-200P)
C406	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C407	1-164-156-11	CERAMIC CHIP	0.1uF		25V (DSR-200P)
C408	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C409	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C411	1-104-753-11	TANTAL. CHIP	47uF	20%	6.3V
C412	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C413	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C414	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C415	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C416	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C417	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C418	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C419	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C420	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C421	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C422	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C423	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C428	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C429	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C430	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C431	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C436	1-162-907-11	CERAMIC CHIP	2PF	0.25PF	50V
C437	1-162-907-11	CERAMIC CHIP	2PF	0.25PF	50V
C439	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C440	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C441	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C442	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C443	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V
C444	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C445	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C447	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C448	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C449	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C450	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V
C451	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C452	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C453	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C455	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C456	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C457	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C458	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C469	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C471	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C476	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C478	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C479	1-135-157-21	TANTALUM CHIP	10uF	20%	6.3V
C480	1-135-157-21	TANTALUM CHIP	10uF	20%	6.3V
C481	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C482	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C483	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C500	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C501	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C502	1-113-994-11	TANTAL. CHIP	6.8uF	20%	16V
C504	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C505	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C509	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C510	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C511	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C512	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C517	1-162-918-11	CERAMIC CHIP	18PF	5%	50V
C518	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C520	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C521	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C522	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C523	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C524	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C525	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C526	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C527	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C528	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C529	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C530	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C532	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C534	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C536	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C537	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C538	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C539	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C545	1-164-156-11	CERAMIC CHIP	0.1uF		25V

Ref. No.	Part No.	Description			Remarks
C547	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C556	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C557	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C641	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C642	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C643	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C646	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C658	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C659	1-135-157-21	TANTALUM CHIP	10uF	20%	6.3V
C673	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C674	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C675	1-135-157-21	TANTALUM CHIP	10uF	20%	6.3V
C678	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C679	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C702	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C705	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C706	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C709	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C710	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C711	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C712	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C713	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C716	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C717	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C718	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C719	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C720	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C721	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C723	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C724	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C725	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C727	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C728	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C729	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C730	1-162-960-11	CERAMIC CHIP	220PF	10%	50V
		< CONNECTOR >			
* CN401	1-770-454-21	CONNECTOR, BOARD TO BOARD 70P			
* CN403	1-770-454-21	CONNECTOR, BOARD TO BOARD 70P			
CN500	1-691-494-21	CONNECTOR, FFC/FPC 15P			
CN501	1-573-368-11	CONNECTOR, FFC/FPC 28P			
CN502	1-770-543-21	CONNECTOR, FFC/FPC 40P			
CN505	1-750-358-21	CONNECTOR, FFC/FPC (ZIF) 30P			
* CN506	1-770-572-21	CONNECTOR, BOARD TO BOARD 30P			
* CN641	1-770-454-21	CONNECTOR, BOARD TO BOARD 70P			
CN643	1-691-494-21	CONNECTOR, FFC/FPC 15P			
CN700	1-580-789-21	PIN, CONNECTOR (SMD) 6P			
		< DIODE >			
D401	8-719-055-86	DIODE KV1470TL1-3			
D402	8-719-055-86	DIODE KV1470TL1-3			
D403	8-719-027-95	DIODE HSM88WK			
D404	8-719-027-95	DIODE HSM88WK			
D500	8-719-159-96	DIODE RD5.1UM-T1B			
D501	8-719-159-96	DIODE RD5.1UM-T1B			
D502	8-719-040-57	DIODE 015Z8.2-XY-TPH3			
D507	8-719-421-27	DIODE MA728			
D508	8-719-046-91	DIODE MA2S111			
D511	8-719-420-51	DIODE MA729			
D512	8-719-420-51	DIODE MA729			
D513	8-719-421-67	DIODE MA132WK			
D653	8-719-040-57	DIODE 015Z8.2-XY-TPH3			
D654	8-719-046-91	DIODE MA2S111			
		< FERRITE BEAD >			
FB653	1-543-956-21	BEAD, FERRITE (CHIP)			
		< IC >			
IC401	8-759-327-31	IC CXD2183R (DSR-200P)			
IC402	8-759-327-05	IC CXD2184R			
IC403	8-759-426-26	IC CXD8608R			
IC404	8-752-375-34	IC CXK48V818R-T6			
IC405	8-752-375-34	IC CXK48V818R-T6			
IC406	8-759-328-28	IC ZA4024			
IC409	8-752-865-90	IC CXP911016-008R			
IC410	8-752-375-05	IC CXD2191R			
IC411	8-759-337-30	IC uPD482445LGW-B10-E2			
IC412	8-759-385-90	IC CXD2187AR			
IC500	8-759-298-10	IC S-8423NFS-T2			
IC501	8-759-451-61	IC MB89098RPFV-G-150-BND			
IC502	8-759-327-60	IC TC7W125FU-TE12R			
IC503	8-759-327-60	IC TC7W125FU-TE12R			
IC504	8-759-428-95	IC HD6433837TB22X			
IC505	8-759-327-65	IC CXD8525N-E2			
IC644	8-752-374-96	IC CXD2190R			
IC646	8-759-337-74	IC HM62V256LT8Z			
IC700	8-759-433-15	IC HD6433837TB13X			
IC701	8-759-430-56	IC CXD2194AR			
IC702	8-759-432-00	IC TSB11LV01PT-TEB			
		< COIL >			
L401	1-414-398-11	INDUCTOR 10uH			
L402	1-410-740-31	INDUCTOR CHIP 0.82uH			
L403	1-410-378-11	INDUCTOR CHIP 5.6uH			
L405	1-414-398-11	INDUCTOR 10uH			
L406	1-414-398-11	INDUCTOR 10uH (DSR-200P)			
L407	1-414-398-11	INDUCTOR 10uH			
L409	1-414-402-11	INDUCTOR 47uH			
L410	1-414-398-11	INDUCTOR 10uH			
L411	1-414-398-11	INDUCTOR 10uH			
L500	1-414-398-11	INDUCTOR 10uH			
L501	1-414-392-21	INDUCTOR 1uH			
L502	1-414-392-21	INDUCTOR 1uH			
L503	1-414-392-21	INDUCTOR 1uH			
L504	1-414-392-21	INDUCTOR 1uH			
L505	1-414-392-21	INDUCTOR 1uH			
L506	1-414-398-11	INDUCTOR 10uH			
L507	1-414-398-11	INDUCTOR 10uH			
L508	1-414-398-11	INDUCTOR 10uH			
L509	1-414-398-11	INDUCTOR 10uH			
L510	1-414-392-21	INDUCTOR 1uH			

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Ref. No.	Part No.	Description				Remarks
L511	1-414-392-21	INDUCTOR 1uH				
L512	1-414-392-21	INDUCTOR 1uH				
L513	1-414-392-21	INDUCTOR 1uH				
L514	1-414-392-21	INDUCTOR 1uH				
L516	1-414-392-21	INDUCTOR 1uH				
L518	1-414-392-21	INDUCTOR 1uH				
L519	1-414-392-21	INDUCTOR 1uH				
L520	1-414-392-21	INDUCTOR 1uH				
L521	1-412-951-11	INDUCTOR 10uH				
L642	1-414-398-11	INDUCTOR 10uH				
L646	1-414-398-11	INDUCTOR 10uH				
L700	1-414-398-11	INDUCTOR 10uH				
L701	1-414-398-11	INDUCTOR 10uH				
L702	1-414-398-11	INDUCTOR 10uH				
L703	1-414-398-11	INDUCTOR 10uH				
L704	1-414-398-11	INDUCTOR 10uH				
		< TRANSISTOR >				
Q500	8-729-427-74	TRANSISTOR XP4601				
Q501	8-729-429-18	TRANSISTOR UN9213				
Q504	8-729-822-05	TRANSISTOR 2SD1622-ST-TD				
Q505	8-729-425-50	TRANSISTOR 2SB1462-Q				
Q506	8-729-428-88	TRANSISTOR UN9113				
Q507	8-729-428-88	TRANSISTOR UN9113				
Q508	8-729-427-70	TRANSISTOR XP4401				
Q509	8-729-106-60	TRANSISTOR 2SB1115A				
Q641	8-729-427-70	TRANSISTOR XP4401				
		< RESISTOR >				
R401	1-216-864-11	METAL CHIP	0	5%	1/16W	(DSR-200)
R402	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R410	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R411	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R412	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R413	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R414	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R419	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R420	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R421	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R422	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R423	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R424	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R426	1-216-805-11	METAL CHIP	47	5%	1/16W	
R427	1-216-805-11	METAL CHIP	47	5%	1/16W	
R428	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R429	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R430	1-216-817-11	METAL CHIP	470	5%	1/16W	
R431	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R432	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R433	1-216-805-11	METAL CHIP	47	5%	1/16W	
R434	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R435	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R436	1-216-857-11	METAL CHIP	1M	5%	1/16W	
R437	1-216-815-11	METAL CHIP	330	5%	1/16W	
R438	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R439	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R440	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R441	1-216-805-11	METAL CHIP	47	5%	1/16W	
R442	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R443	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R449	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R450	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R451	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R453	1-216-864-11	METAL CHIP	0	5%	1/16W	
R454	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R455	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R456	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R457	1-216-864-11	METAL CHIP	0	5%	1/16W	
R458	1-216-864-11	METAL CHIP	0	5%	1/16W	
R459	1-216-864-11	METAL CHIP	0	5%	1/16W	
R460	1-216-864-11	METAL CHIP	0	5%	1/16W	
R461	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R462	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R463	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R464	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R466	1-216-864-11	METAL CHIP	0	5%	1/16W	
R467	1-216-805-11	METAL CHIP	47	5%	1/16W	
R468	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R469	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R470	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R471	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R472	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R473	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R474	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R475	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R476	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R477	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R478	1-216-817-11	METAL CHIP	470	5%	1/16W	
R480	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R481	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R482	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R500	1-216-864-11	METAL CHIP	0	5%	1/16W	
R501	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R503	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R504	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R505	1-216-843-11	METAL CHIP	68K	5%	1/16W	
R506	1-216-847-11	METAL CHIP	150K	5%	1/16W	
R507	1-216-864-11	METAL CHIP	0	5%	1/16W	
R508	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R510	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R511	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R512	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R514	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R515	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R516	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R517	1-216-864-11	METAL CHIP	0	5%	1/16W	
R518	1-216-814-11	METAL CHIP	270	5%	1/16W	
R519	1-216-817-11	METAL CHIP	470	5%	1/16W	
R520	1-216-833-11	METAL CHIP	10K	5%	1/16W	

Ref. No.	Part No.	Description			Remarks
R521	1-216-821-11	METAL CHIP	1K	5%	1/16W
R522	1-216-851-11	METAL CHIP	330K	5%	1/16W
R523	1-216-821-11	METAL CHIP	1K	5%	1/16W
R524	1-216-845-11	METAL CHIP	100K	5%	1/16W
R525	1-216-857-11	METAL CHIP	1M	5%	1/16W
R526	1-216-851-11	METAL CHIP	330K	5%	1/16W
R527	1-216-864-11	METAL CHIP	0	5%	1/16W
R529	1-216-833-11	METAL CHIP	10K	5%	1/16W
R530	1-216-833-11	METAL CHIP	10K	5%	1/16W
R531	1-216-833-11	METAL CHIP	10K	5%	1/16W
R532	1-216-821-11	METAL CHIP	1K	5%	1/16W
R536	1-216-841-11	METAL CHIP	47K	5%	1/16W
R537	1-216-841-11	METAL CHIP	47K	5%	1/16W
R538	1-216-841-11	METAL CHIP	47K	5%	1/16W
R539	1-216-841-11	METAL CHIP	47K	5%	1/16W
R540	1-216-821-11	METAL CHIP	1K	5%	1/16W
R541	1-216-821-11	METAL CHIP	1K	5%	1/16W
R542	1-216-864-11	METAL CHIP	0	5%	1/16W
R543	1-216-841-11	METAL CHIP	47K	5%	1/16W
R545	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R546	1-543-954-11	BEAD, FERRITE (CHIP)			
R550	1-216-841-11	METAL CHIP	47K	5%	1/16W
R551	1-216-841-11	METAL CHIP	47K	5%	1/16W
R555	1-216-864-11	METAL CHIP	0	5%	1/16W
R559	1-216-809-11	METAL CHIP	100	5%	1/16W
R560	1-216-817-11	METAL CHIP	470	5%	1/16W
R563	1-216-864-11	METAL CHIP	0	5%	1/16W
R564	1-216-864-11	METAL CHIP	0	5%	1/16W
R565	1-216-841-11	METAL CHIP	47K	5%	1/16W
R568	1-216-841-11	METAL CHIP	47K	5%	1/16W
R569	1-216-841-11	METAL CHIP	47K	5%	1/16W
R570	1-216-841-11	METAL CHIP	47K	5%	1/16W
R571	1-216-841-11	METAL CHIP	47K	5%	1/16W
R572	1-216-841-11	METAL CHIP	47K	5%	1/16W
R573	1-216-817-11	METAL CHIP	470	5%	1/16W
R574	1-216-841-11	METAL CHIP	47K	5%	1/16W
R575	1-216-821-11	METAL CHIP	1K	5%	1/16W
R576	1-216-841-11	METAL CHIP	47K	5%	1/16W
R577	1-216-864-11	METAL CHIP	0	5%	1/16W
R578	1-216-821-11	METAL CHIP	1K	5%	1/16W
R579	1-216-857-11	METAL CHIP	1M	5%	1/16W
R580	1-216-821-11	METAL CHIP	1K	5%	1/16W
R581	1-216-864-11	METAL CHIP	0	5%	1/16W
R583	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R584	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R585	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R586	1-216-821-11	METAL CHIP	1K	5%	1/16W
R587	1-216-864-11	METAL CHIP	0	5%	1/16W
R588	1-216-821-11	METAL CHIP	1K	5%	1/16W
R589	1-216-821-11	METAL CHIP	1K	5%	1/16W
R590	1-216-864-11	METAL CHIP	0	5%	1/16W
R591	1-216-845-11	METAL CHIP	100K	5%	1/16W
R592	1-216-845-11	METAL CHIP	100K	5%	1/16W
R594	1-216-821-11	METAL CHIP	1K	5%	1/16W
R595	1-216-833-11	METAL CHIP	10K	5%	1/16W

Ref. No.	Part No.	Description			Remarks
R596	1-216-821-11	METAL CHIP	1K	5%	1/16W
R597	1-216-838-11	METAL CHIP	27K	5%	1/16W
R600	1-216-864-11	METAL CHIP	0	5%	1/16W
R601	1-216-809-11	METAL CHIP	100	5%	1/16W
R602	1-216-809-11	METAL CHIP	100	5%	1/16W
R603	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R604	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R605	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R606	1-216-830-11	METAL CHIP	5.6K	5%	1/16W
R607	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R608	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R609	1-216-138-00	METAL CHIP	3.3	5%	1/8W
R610	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R644	1-216-864-11	METAL CHIP	0	5%	1/16W
R700	1-216-833-11	METAL CHIP	10K	5%	1/16W
R703	1-216-845-11	METAL CHIP	100K	5%	1/16W
R707	1-216-833-11	METAL CHIP	10K	5%	1/16W
R708	1-216-833-11	METAL CHIP	10K	5%	1/16W
R709	1-216-837-11	METAL CHIP	22K	5%	1/16W
R710	1-216-837-11	METAL CHIP	22K	5%	1/16W
R727	1-216-833-11	METAL CHIP	10K	5%	1/16W
R732	1-218-873-11	METAL CHIP	12K	0.50%	1/16W
R735	1-216-864-11	METAL CHIP	0	5%	1/16W
R736	1-218-873-11	METAL CHIP	12K	0.50%	1/16W
R737	1-218-871-11	METAL CHIP	10K	0.50%	1/16W
R738	1-211-987-11	METAL GLAZE	56	0.50%	1/16W
R739	1-211-987-11	METAL GLAZE	56	0.50%	1/16W
R740	1-211-987-11	METAL GLAZE	56	0.50%	1/16W
R741	1-211-987-11	METAL GLAZE	56	0.50%	1/16W
R742	1-216-833-11	METAL CHIP	10K	5%	1/16W
R746	1-216-864-11	METAL CHIP	0	5%	1/16W
R747	1-216-837-11	METAL CHIP	22K	5%	1/16W
R749	1-216-833-11	METAL CHIP	10K	5%	1/16W
R750	1-216-833-11	METAL CHIP	10K	5%	1/16W
R751	1-216-833-11	METAL CHIP	10K	5%	1/16W
R752	1-216-864-11	METAL CHIP	0	5%	1/16W
R753	1-216-864-11	METAL CHIP	0	5%	1/16W
R754	1-216-864-11	METAL CHIP	0	5%	1/16W
R755	1-216-864-11	METAL CHIP	0	5%	1/16W
R758	1-216-833-11	METAL CHIP	10K	5%	1/16W
R759	1-216-833-11	METAL CHIP	10K	5%	1/16W
R760	1-218-871-11	METAL CHIP	10K	0.50%	1/16W
R761	1-216-833-11	METAL CHIP	10K	5%	1/16W
R762	1-216-857-11	METAL CHIP	1M	5%	1/16W
R763	1-216-845-11	METAL CHIP	100K	5%	1/16W
R764	1-216-833-11	METAL CHIP	10K	5%	1/16W
R765	1-216-821-11	METAL CHIP	1K	5%	1/16W

< CONPOSITION CIRCUIT BLOCK >

Ref. No.	Part No.	Description
RB401	1-236-971-11	NETWORK, RES 0 (DSR-200)
RB402	1-236-971-11	NETWORK, RES 0 (DSR-200)
RB403	1-236-971-11	NETWORK, RES 0 (DSR-200)
RB404	1-236-971-11	NETWORK, RES 0 (DSR-200)
RB500	1-236-436-11	NETWORK, RES 100K

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Ref. No.	Part No.	Description	Remarks
RB501	1-236-907-11	NETWORK RESISTOR (CHIP) 100K	
RB502	1-236-907-11	NETWORK RESISTOR (CHIP) 100K	
RB503	1-236-412-11	NETWORK, RES 1.0K	
RB504	1-236-904-11	NETWORK RESISTOR (CHIP) 1.0K	
RB505	1-236-904-11	NETWORK RESISTOR (CHIP) 1.0K	
RB506	1-236-412-11	NETWORK, RES 1.0K	
RB507	1-236-424-11	NETWORK, RES 10K	
RB508	1-236-904-11	NETWORK RESISTOR (CHIP) 1.0K	
RB509	1-236-904-11	NETWORK RESISTOR (CHIP) 1.0K	
RB510	1-236-904-11	NETWORK RESISTOR (CHIP) 1.0K	
RB511	1-236-908-11	NETWORK RESISTOR (CHIP) 10K	
RB512	1-236-904-11	NETWORK RESISTOR (CHIP) 1.0K	
RB513	1-236-904-11	NETWORK RESISTOR (CHIP) 1.0K	
RB514	1-236-412-11	NETWORK, RES 1.0K	
RB515	1-236-904-11	NETWORK RESISTOR (CHIP) 1.0K	
RB516	1-236-412-11	NETWORK, RES 1.0K	
RB517	1-236-971-11	NETWORK, RES 0	
RB518	1-236-971-11	NETWORK, RES 0	
RB519	1-236-904-11	NETWORK RESISTOR (CHIP) 1.0K	
RB520	1-236-971-11	NETWORK, RES 0	
RB522	1-236-412-11	NETWORK, RES 1.0K	
RB523	1-236-904-11	NETWORK RESISTOR (CHIP) 1.0K	
RB524	1-236-904-11	NETWORK RESISTOR (CHIP) 1.0K	
RB525	1-236-971-11	NETWORK, RES 0	
RB526	1-236-412-11	NETWORK, RES 1.0K	
RB527	1-236-904-11	NETWORK RESISTOR (CHIP) 1.0K	
RB641	1-236-440-11	NETWORK, RES 220K	
RB642	1-236-440-11	NETWORK, RES 220K	
RB643	1-236-432-11	NETWORK, RES 47K	
RB644	1-236-432-11	NETWORK, RES 47K	
		< VIBRATOR >	
X401	1-760-654-21	VIBRATOR, CRYSTAL 13.5MHz	
X402	1-760-655-21	VIBRATOR, CRYSTAL 20MHz	
X500	1-579-369-21	VIBRATOR 10MHz	
X501	1-760-458-21	VIBRATOR, CRYSTAL 32.768KHz	
X502	1-760-497-21	VIBRATOR, LITHIUM NIOBATE 6MHz	
X700	1-760-497-21	VIBRATOR, LITHIUM NIOBATE 6MHz	
X701	1-579-922-11	VIBRATOR, CRYSTAL (CHIP TYPE) 24.576MHz	

Ref. No.	Part No.	Description	Remarks
	A-7072-949-A	JK-149 BOARD, COMPLETE (DSR-200) ************************	
*	A-7073-006-A	JK-149P BOARD, COMPLETE (DSR-200P) *************************	
		(Ref.No.4,000 Series)	
*	3-947-530-01	HOLDER, TERMINAL, S	
		< CAPACITOR >	
C200	1-162-964-11	CERAMIC CHIP 0.001uF 10%	50V
C201	1-113-996-11	TANTAL. CHIP 220uF 20%	4V
C202	1-113-996-11	TANTAL. CHIP 220uF 20%	4V
C203	1-135-181-21	TANTALUM CHIP 4.7uF 20%	6.3V
C204	1-135-181-21	TANTALUM CHIP 4.7uF 20%	6.3V
C205	1-135-181-21	TANTALUM CHIP 4.7uF 20%	6.3V
C206	1-135-181-21	TANTALUM CHIP 4.7uF 20%	6.3V
C207	1-135-259-11	TANTAL. CHIP 10uF 20%	6.3V
C212	1-162-974-11	CERAMIC CHIP 0.01uF	50V
		< CONNECTOR >	
CN201	1-691-494-21	CONNECTOR, FFC/FPC 15P	
CN202	1-691-492-21	CONNECTOR, FFC/FPC 13P	
CN203	1-770-305-11	CONNECTOR, FFC/FPC 10P	
		< DIODE >	
D200	8-719-421-59	DIODE MA3130WA-TX	
D201	8-719-421-59	DIODE MA3130WA-TX	
D202	8-719-421-59	DIODE MA3130WA-TX	
D203	8-719-421-59	DIODE MA3130WA-TX	
D204	8-719-421-59	DIODE MA3130WA-TX	
D205	8-719-420-14	DIODE MA8082-M	
D206	8-719-420-14	DIODE MA8082-M	
		< FERRITE BEAD >	
FB201	1-543-955-11	BEAD, FERRITE (CHIP)	
FB202	1-543-955-11	BEAD, FERRITE (CHIP)	
FB203	1-543-955-11	BEAD, FERRITE (CHIP)	
FB204	1-543-955-11	BEAD, FERRITE (CHIP)	
		< IC >	
IC201	8-752-009-51	IC CX20095A	
		< JACK >	
J200	1-537-747-31	TERMINAL BOARD (AUDIO/VIDEO OUT)	
J201	1-566-850-31	CONNECTOR, (S) TERMINAL 4P(S VIDEO OUT)	
		< COIL >	
L200	1-543-956-21	BEAD, FERRITE (CHIP)	
L201	1-543-956-21	BEAD, FERRITE (CHIP)	
L203	1-412-033-11	INDUCTOR CHIP 220uH	
L204	1-412-033-11	INDUCTOR CHIP 220uH	
L205	1-543-956-21	BEAD, FERRITE (CHIP)	
		< RESISTOR >	
R204	1-218-285-11	METAL GLAZE 75 5%	1/16W
R205	1-218-285-11	METAL GLAZE 75 5%	1/16W
R206	1-216-827-11	METAL CHIP 3.3K 5%	1/16W
R207	1-216-827-11	METAL CHIP 3.3K 5%	1/16W
R208	1-216-827-11	METAL CHIP 3.3K 5%	1/16W
R209	1-216-827-11	METAL CHIP 3.3K 5%	1/16W
R210	1-216-864-11	METAL CHIP 0 5%	1/16W
R211	1-218-285-11	METAL GLAZE 75 5%	1/16W
R212	1-543-958-11	BEAD, FERRITE (CHIP)	
R213	1-543-958-11	BEAD, FERRITE (CHIP)	

Ref. No.	Part No.	Description			Remarks
	A-7072-885-A	LD-86 BOARD, COMPLETE *********************			
					(Ref.No.3,000 Series)
		< CAPACITOR >			
C302	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C303	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C304	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C305	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C306	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C307	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C308	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C309	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C310	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C311	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C312	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C315	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C316	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C317	1-135-210-11	TANTALUM CHIP	4.7uF	20%	10V
C319	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C320	1-135-210-11	TANTALUM CHIP	4.7uF	20%	10V
C321	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C322	1-135-151-21	TANTALUM CHIP	4.7uF	20%	4V
C324	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C325	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C326	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C327	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C328	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C330	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V
C331	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C333	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C334	1-164-346-11	CERAMIC CHIP	1uF		16V
C335	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C336	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C337	1-135-210-11	TANTALUM CHIP	4.7uF	20%	10V
C338	1-135-210-11	TANTALUM CHIP	4.7uF	20%	10V
C339	1-164-346-11	CERAMIC CHIP	1uF		16V
C340	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C341	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V
C342	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C343	1-104-752-11	TANTAL. CHIP	33uF	20%	6.3V
C344	1-165-128-11	CERAMIC CHIP	0.22uF		16V
C345	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C346	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C347	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C348	1-104-752-11	TANTAL. CHIP	33uF	20%	6.3V
C349	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C350	1-135-210-11	TANTALUM CHIP	4.7uF	20%	10V
C351	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C352	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C390	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
		< CONNECTOR >			
CN301	1-750-358-21	CONNECTOR, FFC/FPC (ZIF) 30P			
CN302	1-766-833-21	CONNECTOR, FFC/FPC (ZIF) 21P			
CN304	1-750-345-11	CONNECTOR, FFC/EPC (ZIF) 30P			

Ref. No.	Part No.	Description			Remarks
		< DIODE >			
D301	8-719-050-49	DIODE RD9.1UM-T1B			
D302	8-719-050-49	DIODE RD9.1UM-T1B			
D303	8-719-050-49	DIODE RD9.1UM-T1B			
D304	8-719-050-49	DIODE RD9.1UM-T1B			
D305	8-719-050-49	DIODE RD9.1UM-T1B			
		< FERRITE BEAD >			
FB001	1-543-955-11	BEAD, FERRITE (CHIP)			
		< IC >			
IC301	8-759-058-45	IC NJM3403AV			
IC302	8-759-059-03	IC LM324PW			
IC303	8-759-058-41	IC NJM3416V			
IC304	8-759-058-41	IC NJM3416V			
IC305	8-759-075-97	IC LM358PW-ELM15			
IC306	8-759-248-78	IC MB88102PFV-G-BND-ER			
IC307	8-752-880-04	IC CXP81120-037R			
IC308	8-759-059-03	IC LM324PW			
IC309	8-759-823-51	IC LB1830M			
IC310	8-759-327-33	IC BU9241FS-E2			
IC311	8-759-351-46	IC MPC17A34RVMEL			
IC312	8-752-377-38	IC CXD2430N			
IC313	8-759-050-50	IC SN74HCT04APW-E05			
		< COIL >			
L301	1-410-993-11	INDUCTOR CHIP 1uH			
L302	1-410-993-11	INDUCTOR CHIP 1uH			
L303	1-414-398-11	INDUCTOR 10uH			
L304	1-414-398-11	INDUCTOR 10uH			
L305	1-414-398-11	INDUCTOR 10uH			
L306	1-414-398-11	INDUCTOR 10uH			
L307	1-414-398-11	INDUCTOR 10uH			
L308	1-414-392-21	INDUCTOR 1uH			
L309	1-414-392-21	INDUCTOR 1uH			
L310	1-414-398-11	INDUCTOR 10uH			
L311	1-414-398-11	INDUCTOR 10uH			
L312	1-414-398-11	INDUCTOR 10uH			
L315	1-414-404-11	INDUCTOR 100uH			
		< TRANSISTOR >			
Q301	8-729-429-01	TRANSISTOR UN9119-(TXE)			
Q302	8-729-429-01	TRANSISTOR UN9119-(TXE)			
Q303	8-729-425-64	TRANSISTOR 2SD2216-Q			
Q304	8-729-425-64	TRANSISTOR 2SD2216-Q			
Q305	8-729-427-70	TRANSISTOR XP4401			
Q306	8-729-429-18	TRANSISTOR UN9213			
Q307	8-729-429-18	TRANSISTOR UN9213			
		< RESISTOR >			
R301	1-218-851-11	METAL CHIP	1.5K	0.50%	1/16W
R302	1-218-851-11	METAL CHIP	1.5K	0.50%	1/16W
R303	1-216-837-11	METAL CHIP	22K	5%	1/16W
R304	1-216-837-11	METAL CHIP	22K	5%	1/16W
R305	1-216-837-11	METAL CHIP	22K	5%	1/16W

Ref. No.	Part No.	Description			Remarks
R306	1-216-837-11	METAL CHIP	22K	5%	1/16W
R307	1-218-871-11	METAL CHIP	10K	0.50%	1/16W
R308	1-218-871-11	METAL CHIP	10K	0.50%	1/16W
R309	1-218-871-11	METAL CHIP	10K	0.50%	1/16W
R310	1-218-895-11	METAL CHIP	100K	0.50%	1/16W
R311	1-218-853-11	METAL CHIP	1.8K	0.50%	1/16W
R312	1-218-871-11	METAL CHIP	10K	0.50%	1/16W
R313	1-218-895-11	METAL CHIP	100K	0.50%	1/16W
R314	1-218-853-11	METAL CHIP	1.8K	0.50%	1/16W
R315	1-218-895-11	METAL CHIP	100K	0.50%	1/16W
R316	1-218-895-11	METAL CHIP	100K	0.50%	1/16W
R317	1-218-869-11	METAL CHIP	8.2K	0.50%	1/16W
R318	1-218-869-11	METAL CHIP	8.2K	0.50%	1/16W
R319	1-218-875-11	METAL CHIP	15K	0.50%	1/16W
R320	1-218-895-11	METAL CHIP	100K	0.50%	1/16W
R321	1-218-903-11	METAL CHIP	220K	0.50%	1/16W
R322	1-218-903-11	METAL CHIP	220K	0.50%	1/16W
R323	1-218-895-11	METAL CHIP	100K	0.50%	1/16W
R324	1-218-875-11	METAL CHIP	15K	0.50%	1/16W
R327	1-216-001-00	METAL CHIP	10	5%	1/10W
R328	1-218-887-11	METAL CHIP	47K	0.50%	1/16W
R329	1-218-887-11	METAL CHIP	47K	0.50%	1/16W
R330	1-216-013-00	METAL CHIP	33	5%	1/10W
R331	1-216-821-11	METAL CHIP	1K	5%	1/16W
R334	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R335	1-216-845-11	METAL CHIP	100K	5%	1/16W
R337	1-216-848-11	METAL CHIP	180K	5%	1/16W
R338	1-216-851-11	METAL CHIP	330K	5%	1/16W
R339	1-216-836-11	METAL CHIP	18K	5%	1/16W
R340	1-216-830-11	METAL CHIP	5.6K	5%	1/16W
R341	1-216-848-11	METAL CHIP	180K	5%	1/16W
R344	1-216-841-11	METAL CHIP	47K	5%	1/16W
R345	1-216-815-11	METAL CHIP	330	5%	1/16W
R346	1-216-837-11	METAL CHIP	22K	5%	1/16W
R348	1-216-837-11	METAL CHIP	22K	5%	1/16W
R349	1-216-833-11	METAL CHIP	10K	5%	1/16W
R350	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R355	1-216-837-11	METAL CHIP	22K	5%	1/16W
R356	1-216-837-11	METAL CHIP	22K	5%	1/16W
R361	1-216-848-11	METAL CHIP	180K	5%	1/16W
R362	1-216-833-11	METAL CHIP	10K	5%	1/16W
R363	1-216-848-11	METAL CHIP	180K	5%	1/16W
R364	1-216-833-11	METAL CHIP	10K	5%	1/16W
R365	1-216-821-11	METAL CHIP	1K	5%	1/16W
R366	1-216-845-11	METAL CHIP	100K	5%	1/16W
R369	1-216-833-11	METAL CHIP	10K	5%	1/16W
R370	1-216-835-11	METAL CHIP	15K	5%	1/16W
R371	1-216-838-11	METAL CHIP	27K	5%	1/16W
R372	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R373	1-216-134-00	METAL CHIP	2.2	5%	1/8W
R374	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R375	1-216-814-11	METAL CHIP	270	5%	1/16W
R376	1-216-857-11	METAL CHIP	1M	5%	1/16W
R377	1-216-841-11	METAL CHIP	47K	5%	1/16W
R378	1-216-841-11	METAL CHIP	47K	5%	1/16W
R379	1-216-821-11	METAL CHIP	1K	5%	1/16W
R380	1-216-821-11	METAL CHIP	1K	5%	1/16W
R381	1-216-842-11	METAL CHIP	56K	5%	1/16W
R382	1-216-821-11	METAL CHIP	1K	5%	1/16W
R383	1-216-837-11	METAL CHIP	22K	5%	1/16W
R386	1-216-864-11	CONDUCTOR, CHIP (1608)			
R390	1-218-887-11	METAL CHIP	47K	0.50%	1/16W
R391	1-218-871-11	METAL CHIP	10K	0.50%	1/16W
R398	1-216-864-11	METAL CHIP	0	5%	1/16W
R399	1-216-864-11	METAL CHIP	0	5%	1/16W
		< VIBRATOR >			
X301	1-579-553-11	VIBRATOR 12MHz			

	A-7072-955-A	LH-10 BOARD, COMPLETE			
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				(Ref.No.5,000 Series)	
		< CAPACITOR >			
C312	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C313	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C318	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C319	1-164-156-11	CERAMIC CHIP	0.1uF		25V
		< CONNECTOR >			
* CN302	1-766-432-21	HOUSING, CONNECTOR 6P			
CN303	1-569-478-21	CONNECTOR, FPC 20P			
		< DIODE >			
D302	8-719-404-49	DIODE MA111			
D303	8-719-422-70	DIODE MA8075			
D306	8-719-421-59	DIODE MA3075WA			
D307	8-719-421-59	DIODE MA3075WA			
D308	8-719-422-70	DIODE MA8075			
		< FERRITE BEAD >			
FB303	1-543-956-21	BEAD, FERRITE (CHIP)			
FB304	1-543-956-21	BEAD, FERRITE (CHIP)			
		< JACK >			
J301	1-695-828-11	JACK (HEADPHONES)			
J302	1-691-258-11	JACK (LANC)			
		< COIL >			
L301	1-414-406-11	INDUCTOR 220uH			
L302	1-414-406-11	INDUCTOR 220uH			
		< RESISTOR >			
R314	1-218-871-11	METAL CHIP	10K	0.50%	1/16W
R315	1-218-869-11	METAL CHIP	8.2K	0.50%	1/16W
R316	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R317	1-543-954-11	BEAD, FERRITE (CHIP)			
R318	1-543-954-11	BEAD, FERRITE (CHIP)			

Ref. No.	Part No.	Description			Remarks
		< VARIABLE RESISTOR >			
RV301	1-225-349-11	RES, VAR, CARBON 20K (MONITOR LEVEL)			
	A-7072-892-A	LI-60 BOARD, COMPLETE			
		*********************			
		(Ref.No.5,000 Series)			
		< CAPACITOR >			
C930	1-164-346-11	CERAMIC CHIP	1uF		16V
		< CONNECTOR >			
CN930	1-580-055-21	PIN, CONNECTOR 2P			
		< DIODE >			
D930	8-719-420-14	DIODE MA8082-M			
		< HOLDER >			
LI930	1-550-104-32	HOLDER, BATTERY			
	A-7072-889-A	MA-280 BOARD, COMPLETE			
		************************			
		(Ref.No.2,000 Series)			
		< CAPACITOR >			
C511	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C512	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C513	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C514	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C515	1-135-091-00	TANTALUM CHIP	1uF	20%	16V
C516	1-135-091-00	TANTALUM CHIP	1uF	20%	16V
C517	1-135-070-00	TANTALUM CHIP	0.1uF	10%	35V
C518	1-135-070-00	TANTALUM CHIP	0.1uF	10%	35V
C521	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C522	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C523	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C524	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C525	1-162-957-11	CERAMIC CHIP	220PF	5%	50V
C526	1-162-957-11	CERAMIC CHIP	220PF	5%	50V
C527	1-135-145-11	TANTALUM CHIP	0.47uF	10%	35V
C528	1-135-145-11	TANTALUM CHIP	0.47uF	10%	35V
C530	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C531	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C541	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C542	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C543	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C544	1-135-091-00	TANTALUM CHIP	1uF	20%	16V
C545	1-135-091-00	TANTALUM CHIP	1uF	20%	16V
C546	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C547	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C548	1-135-070-00	TANTALUM CHIP	0.1uF	10%	35V
C549	1-135-070-00	TANTALUM CHIP	0.1uF	10%	35V
C550	1-135-072-21	TANTALUM CHIP	0.22uF	10%	35V
C551	1-135-072-21	TANTALUM CHIP	0.22uF	10%	35V
C552	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C553	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C554	1-162-959-11	CERAMIC CHIP	330PF	5%	50V
C555	1-162-959-11	CERAMIC CHIP	330PF	5%	50V
C556	1-135-070-00	TANTALUM CHIP	0.1uF	10%	35V
C557	1-135-070-00	TANTALUM CHIP	0.1uF	10%	35V
		< CONNECTOR >			
CN501	1-691-491-21	CONNECTOR, FFC/FPC 12P			
CN502	1-770-693-11	CONNECTOR, FFC/FPC 10P			
		< DIODE >			
D501	8-719-404-49	DIODE MA111			
		< IC >			
IC501	8-759-111-56	IC uPC4572G2			
IC502	8-759-111-56	IC uPC4572G2			
		< TRANSISTOR >			
Q501	8-729-402-81	TRANSISTOR XN4501			
Q502	8-729-402-81	TRANSISTOR XN4501			
Q503	8-729-905-38	TRANSISTOR 2SC4081T106R			
Q504	8-729-905-38	TRANSISTOR 2SC4081T106R			
Q505	8-729-402-81	TRANSISTOR XN4501			
Q506	8-729-905-38	TRANSISTOR 2SC4081T106R			
		< RESISTOR >			
R502	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R503	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R504	1-216-842-11	METAL CHIP	56K	5%	1/16W
R505	1-216-842-11	METAL CHIP	56K	5%	1/16W
R511	1-218-887-11	METAL CHIP	47K	0.50%	1/16W
R512	1-218-887-11	METAL CHIP	47K	0.50%	1/16W
R513	1-218-889-11	METAL CHIP	56K	0.50%	1/16W
R514	1-218-889-11	METAL CHIP	56K	0.50%	1/16W
R515	1-218-859-11	METAL CHIP	3.3K	0.50%	1/16W
R516	1-218-859-11	METAL CHIP	3.3K	0.50%	1/16W
R517	1-218-887-11	METAL CHIP	47K	0.50%	1/16W
R518	1-218-887-11	METAL CHIP	47K	0.50%	1/16W
R520	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R521	1-216-841-11	METAL CHIP	47K	5%	1/16W
R522	1-216-845-11	METAL CHIP	100K	5%	1/16W
R523	1-218-847-11	METAL CHIP	1K	0.50%	1/16W
R524	1-218-847-11	METAL CHIP	1K	0.50%	1/16W
R525	1-218-825-11	METAL GLAZE	120	0.50%	1/16W
R526	1-218-825-11	METAL GLAZE	120	0.50%	1/16W
R527	1-216-857-11	METAL CHIP	1M	5%	1/16W
R528	1-216-857-11	METAL CHIP	1M	5%	1/16W
R531	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R532	1-218-865-11	METAL CHIP	5.6K	0.50%	1/16W
R533	1-218-865-11	METAL CHIP	5.6K	0.50%	1/16W
R534	1-218-887-11	METAL CHIP	47K	0.50%	1/16W
R535	1-218-887-11	METAL CHIP	47K	0.50%	1/16W
R536	1-218-889-11	METAL CHIP	56K	0.50%	1/16W
R537	1-218-889-11	METAL CHIP	56K	0.50%	1/16W
R538	1-218-859-11	METAL CHIP	3.3K	0.50%	1/16W
R539	1-218-859-11	METAL CHIP	3.3K	0.50%	1/16W

Ref. No.	Part No.	Description			Remarks
R540	1-218-882-11	METAL CHIP	30K	0.50%	1/16W
R541	1-218-882-11	METAL CHIP	30K	0.50%	1/16W
R551	1-218-847-11	METAL CHIP	1K	0.50%	1/16W
R552	1-218-847-11	METAL CHIP	1K	0.50%	1/16W
R553	1-218-825-11	METAL GLAZE	120	0.50%	1/16W
R554	1-218-825-11	METAL GLAZE	120	0.50%	1/16W
R555	1-216-857-11	METAL CHIP	1M	5%	1/16W
R556	1-216-857-11	METAL CHIP	1M	5%	1/16W
		< CONPOSITION CIRCUIT BLOCK >			
RB501	1-236-425-11	NETWORK, RES 12K			
RB502	1-236-432-11	NETWORK, RES 47K			
RB503	1-236-433-11	NETWORK, RES 56K			
RB504	1-236-436-11	NETWORK, RES 100K			
		< SWITCH >			
S501	1-571-640-11	SWITCH, SLIDE (BUILT-IN MIC)			
S502	1-762-823-11	SWITCH, SLIDE (MIC)			

	A-7066-872-A	MD-70 BOARD, COMPLETE			
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				(Ref.No.9,000 Series)	
	1-662-945-11	PWB, FP-495 FLEXIBLE PRINT BOARD			
	3-973-165-01	HOLDER, SENSOR			
	3-973-166-01	HOLDER, LED			
	3-973-185-01	ENCODER			
	3-974-419-02	SPACER, SWITCH			
		< CONNECTOR >			
CN001	1-770-701-11	CONNECTOR, FFC/FPC 18P			
CN002	1-770-312-21	CONNECTOR 4P			
		< DIODE >			
D001	8-719-988-42	DIODE GL453			
		< PHOTO INTERRUPTER >			
PH001	8-719-801-60	PHOTO TRASISTOR TLP907-OLB			
PH002	8-719-801-60	PHOTO TRASISTOR TLP907-OLB			
		< TRANSFORMER >			
PT001	8-729-907-25	PHOTO TRANSISTOR PT4850F			
PT002	8-729-907-25	PHOTO TRANSISTOR PT4850F			
		< RESISTOR >			
R001	1-216-031-00	METAL CHIP	180	5%	1/10W
		< SWITCH >			
S001	1-570-953-11	SWITCH, PUSH (1 KEY) (C IN)			
S002	1-762-551-11	SWITCH, PUSH (REC PROOF)			
S003	X-3946-684-1	DISK ASSY, ENCODER (MODE SELECT)			
S007	1-570-953-11	SWITCH, PUSH (1 KEY) (C DOWN)			

Ref. No.	Part No.	Description			Remarks
	A-7072-219-A	MG-16 BOARD, COMPLETE			
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				(Ref.No.7,000 Series)	
		< CAPACITOR >			
C901	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C902	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C903	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C904	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C905	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C906	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C907	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C908	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C909	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C910	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C911	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C912	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C913	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C914	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C915	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C916	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C917	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C918	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C919	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C920	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C921	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C922	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C923	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C924	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C925	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C926	1-162-974-11	CERAMIC CHIP	0.01uF		50V
		< CONNECTOR >			
* CN901	1-691-549-21	CONNECTOR, BOARD TO BOARD 48P			
		< IC >			
IC901	8-759-327-02	IC CXD2171R-T6			
IC902	8-752-365-06	IC CXK48324R-1-T6			
IC903	8-752-376-25	IC CXK1206ATM-1-T6			
IC904	8-752-374-63	IC CXD2174R-T6			
IC905	8-752-365-06	IC CXK48324R-1-T6			
IC906	8-752-376-25	IC CXK1206ATM-1-T6			
IC907	8-752-375-93	IC CXD2173R			
		< COIL >			
L901	1-414-398-11	INDUCTOR 10uH			
L902	1-414-398-11	INDUCTOR 10uH			
L903	1-414-398-11	INDUCTOR 10uH			
L904	1-414-398-11	INDUCTOR 10uH			
L905	1-414-398-11	INDUCTOR 10uH			
L906	1-414-398-11	INDUCTOR 10uH			
L907	1-414-398-11	INDUCTOR 10uH			
L908	1-414-392-21	INDUCTOR 1uH			

Ref. No.	Part No.	Description			Remarks
	A-7072-953-A	RJ-72 BOARD, COMPLETE ********************			
				(Ref.No.5,000 Series)	
		< CAPACITOR >			
C001	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C002	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C003	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C011	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C012	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C013	1-162-925-11	CERAMIC CHIP	68PF	5%	50V
C014	1-162-925-11	CERAMIC CHIP	68PF	5%	50V
C017	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C051	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C052	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C053	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C061	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C062	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C063	1-162-925-11	CERAMIC CHIP	68PF	5%	50V
C064	1-162-925-11	CERAMIC CHIP	68PF	5%	50V
C067	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
		< CONNECTOR >			
CN001	1-565-728-11	CONNECTOR, EPC 17P			
		< DIODE >			
D001	8-719-404-49	DIODE MA111			
D002	8-719-404-49	DIODE MA111			
D003	8-719-404-49	DIODE MA111			
D004	8-719-404-49	DIODE MA111			
D005	8-719-404-49	DIODE MA111			
D006	8-719-404-49	DIODE MA111			
D007	8-719-404-49	DIODE MA111			
D008	8-719-404-49	DIODE MA111			
		< IC >			
IC001	8-759-111-56	IC uPC4572G2			
IC002	8-759-111-56	IC uPC4572G2			
		< RESISTOR >			
R001	1-218-867-11	METAL CHIP	6.8K	0.50%	1/16W
R002	1-218-867-11	METAL CHIP	6.8K	0.50%	1/16W
R003	1-543-954-11	BEAD, FERRITE (CHIP)			
R004	1-543-954-11	BEAD, FERRITE (CHIP)			
R006	1-218-849-11	METAL CHIP	1.2K	0.50%	1/16W
R007	1-216-849-11	METAL CHIP	220K	5%	1/16W
R011	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R012	1-216-845-11	METAL CHIP	100K	5%	1/16W
R013	1-216-845-11	METAL CHIP	100K	5%	1/16W
R014	1-218-863-11	METAL CHIP	4.7K	0.50%	1/16W
R015	1-216-849-11	METAL CHIP	220K	5%	1/16W
R016	1-218-871-11	METAL CHIP	10K	0.50%	1/16W
R017	1-218-871-11	METAL CHIP	10K	0.50%	1/16W
R018	1-216-833-11	METAL CHIP	10K	5%	1/16W
R019	1-216-833-11	METAL CHIP	10K	5%	1/16W
R051	1-218-867-11	METAL CHIP	6.8K	0.50 %	1/16W
R052	1-218-867-11	METAL CHIP	6.8K	0.50 %	1/16W
R053	1-543-954-11	BEAD, FERRITE (CHIP)			
R054	1-543-954-11	BEAD, FERRITE (CHIP)			
R056	1-218-849-11	METAL CHIP	1.2K	0.50 %	1/16W
R057	1-216-849-11	METAL CHIP	220K	5%	1/16W
R061	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R062	1-216-845-11	METAL CHIP	100K	5%	1/16W
R063	1-216-845-11	METAL CHIP	100K	5%	1/16W
R064	1-218-863-11	METAL CHIP	4.7K	0.50 %	1/16W
R065	1-216-849-11	METAL CHIP	220K	5%	1/16W
R066	1-218-871-11	METAL CHIP	10K	0.50 %	1/16W
R067	1-218-871-11	METAL CHIP	10K	0.50%	1/16W
R068	1-216-833-11	METAL CHIP	10K	5%	1/16W
R069	1-216-833-11	METAL CHIP	10K	5%	1/16W
		< SWITCH >			
S001	1-762-824-11	SWITCH, SLIDE (CH-1 ATT)			
S002	1-762-824-11	SWITCH, SLIDE (CH-2 ATT)			
S003	1-762-825-11	SWITCH, SLIDE (CH-1 LINE/MIC)			
S004	1-762-825-11	SWITCH, SLIDE (CH-2 LINE/MIC)			

Ref. No.	Part No.	Description			Remarks
	A-7066-916-A	RS-73 BOARD, COMPLETE *********************			
				(Ref.No.1,000 Series)	
	3-973-002-01	CASE (C), RF SHIELD			
		< CAPACITOR >			
C770	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C771	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C772	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C773	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C774	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C775	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C776	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C777	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C778	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C779	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C780	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C781	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C782	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C783	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C784	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C785	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C786	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C787	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C788	1-135-091-00	TANTALUM CHIP	1uF	20%	16V
C789	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C791	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C792	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C793	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C794	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C795	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V

Ref. No.	Part No.	Description			Remarks
C796	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C797	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C798	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C799	1-164-217-11	CERAMIC CHIP	150PF	5%	50V
C800	1-113-682-11	TANTAL. CHIP	33uF	20%	10V
C801	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C802	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C803	1-164-217-11	CERAMIC CHIP	150PF	5%	50V
C804	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C806	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C809	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C810	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C811	1-135-145-11	TANTALUM CHIP	0.47uF	10%	35V
C814	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C815	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C816	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C818	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C819	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C821	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C822	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C823	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C824	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C825	1-164-362-11	CERAMIC CHIP	470PF	5%	50V
C826	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C827	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C828	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C829	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C830	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C831	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C832	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C833	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C834	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C835	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C836	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C837	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C838	1-162-913-11	CERAMIC CHIP	8PF	0.5PF	50V
C839	1-162-913-11	CERAMIC CHIP	8PF	0.5PF	50V
C841	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C842	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C843	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C844	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C845	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C847	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C848	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C849	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C850	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C853	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C854	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C855	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C857	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C859	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C861	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C862	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C873	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C874	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C875	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C876	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C880	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C881	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C882	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C883	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C884	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C885	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C886	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C887	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C888	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C889	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C890	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C891	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C892	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C893	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C894	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C895	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C896	1-107-686-11	TANTAL. CHIP	4.7uF	20%	16V
C897	1-164-217-11	CERAMIC CHIP	150PF	5%	50V
C898	1-164-217-11	CERAMIC CHIP	150PF	5%	50V
C899	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C900	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C901	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C902	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C903	1-135-091-00	TANTALUM CHIP	1uF	20%	16V
C904	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C905	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C906	1-164-363-11	CERAMIC CHIP	560PF	5%	50V
C907	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C908	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C909	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C910	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C911	1-104-914-11	TANTAL. CHIP	22uF	20%	16V
C912	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C913	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C914	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C915	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C916	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C917	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C918	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C919	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C920	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C921	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C922	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C923	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C924	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C925	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C926	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C927	1-162-920-11	CERAMIC CHIP	27PF	5%	50V
C928	1-164-174-11	CERAMIC CHIP	0.0082uF	10%	25V
C929	1-164-174-11	CERAMIC CHIP	0.0082uF	10%	25V
C930	1-164-174-11	CERAMIC CHIP	0.0082uF	10%	25V
C931	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C932	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V

Ref. No.	Part No.	Description			Remarks
C933	1-107-686-11	TANTAL. CHIP	4.7uF	20%	16V
C934	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C935	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C936	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C937	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C938	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C940	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C941	1-107-686-11	TANTAL. CHIP	4.7uF	20%	16V
C942	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C943	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C944	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C945	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C946	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C953	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C955	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C956	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C957	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C958	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C959	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C961	1-107-686-11	TANTAL. CHIP	4.7uF	20%	16V
C962	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C963	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C964	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C965	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C966	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C967	1-164-156-11	CERAMIC CHIP	0.1uF		25V
		< CONNECTOR >			
CN771	1-766-646-21	CONNECTOR, FFC/FPC 10P			
CN772	1-774-024-21	CONNECTOR, FFC/FPC (ZIF) 34P			
CN773	1-774-024-21	CONNECTOR, FFC/FPC (ZIF) 34P			
* CN775	1-691-922-11	CONNECTOR, BOARD TO BOARD 14P			
CN881	1-580-055-21	PIN, CONNECTOR 2P			
CN882	1-580-055-21	PIN, CONNECTOR 2P			
CN883	1-766-647-21	CONNECTOR, FFC/FPC 11P			
* CN884	1-770-450-21	CONNECTOR, BOARD TO BOARD 30P			
CN885	1-766-613-21	CONNECTOR, FFC/FPC 36P			
CN886	1-580-055-21	PIN, CONNECTOR 2P			
		< DIODE >			
D771	8-719-046-91	DIODE MA2S111			
D772	8-719-046-91	DIODE MA2S111			
D773	8-719-041-39	DIODE KV1470			
D774	8-719-052-27	DIODE 1SS351-TB			
D775	8-719-052-27	DIODE 1SS351-TB			
D776	8-719-027-95	DIODE HSM88WK			
D883	8-719-046-91	DIODE MA2S111			
D884	8-719-421-03	DIODE MA732			
D885	8-719-046-91	DIODE MA2S111			
		< FILTER >			
FL770	1-411-274-21	LINE, LC DELAY (23NS)			
FL771	1-233-343-21	FILTER, LOW PASS			
FL772	1-233-344-21	FILTER, LOW PASS			
FL880	1-233-351-21	FILTER, BAND PASS			
FL881	1-233-350-21	FILTER, BAND PASS			

Ref. No.	Part No.	Description	Remarks
		< IC >	
IC770	8-759-278-56	IC AK6440HF-E2	
IC771	8-759-064-36	IC MB88346BPFV	
IC772	8-752-371-18	IC CXD2302Q	
IC773	8-752-070-12	IC CXA1762Q	
IC774	8-752-380-06	IC CXD2189AR-T6	
IC775	8-752-070-11	IC CXA1761R	
IC777	8-752-067-87	IC CXA1760Q	
IC880	8-752-874-33	IC CXP912032-018R	
IC881	8-759-165-47	IC MPC1780VFUEB	
IC882	8-759-066-55	IC TA75W393FU	
IC883	8-759-082-60	IC TC7S66FU	
IC884	8-759-327-62	IC TA8482FN-EL	
IC885	8-759-327-00	IC CXA8044Q-T4	
IC886	8-759-337-40	IC NJM2904V(TE2)	
IC887	8-759-337-40	IC NJM2904V(TE2)	
IC888	8-759-335-42	IC CXA1793N-E2	
IC889	8-759-327-66	IC LB1951V-TLM	
		< COIL >	
L770	1-414-398-11	INDUCTOR 10uH	
L772	1-414-398-11	INDUCTOR 10uH	
L773	1-414-398-11	INDUCTOR 10uH	
L774	1-414-398-11	INDUCTOR 10uH	
L776	1-414-398-11	INDUCTOR 10uH	
L777	1-414-398-11	INDUCTOR 10uH	
L779	1-410-738-41	INDUCTOR CHIP 0.56uH	
L780	1-414-398-11	INDUCTOR 10uH	
L781	1-412-963-11	INDUCTOR 100uH	
L782	1-412-963-11	INDUCTOR 100uH	
L783	1-414-398-11	INDUCTOR 10uH	
L789	1-414-398-11	INDUCTOR 10uH	
L791	1-414-398-11	INDUCTOR 10uH	
L880	1-414-398-11	INDUCTOR 10uH	
L881	1-412-282-41	INDUCTOR 470uH	
L883	1-414-398-11	INDUCTOR 10uH	
L884	1-414-392-21	INDUCTOR 1uH	
L885	1-414-392-21	INDUCTOR 1uH	
L886	1-414-392-21	INDUCTOR 1uH	
L887	1-414-392-21	INDUCTOR 1uH	
L888	1-414-392-21	INDUCTOR 1uH	
L889	1-414-392-21	INDUCTOR 1uH	
L890	1-414-398-11	INDUCTOR 10uH	
L891	1-414-392-21	INDUCTOR 1uH	
		< IC LINK >	
⚠PS880	1-576-123-21	LINK, IC 800mA	
⚠PS881	1-576-123-21	LINK, IC 800mA	

Note :	Note :
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

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Ref. No.	Part No.	Description				Remarks
		< TRANSISTOR >				
Q772	8-729-429-14	TRANSISTOR	UN9211			
Q773	8-729-141-48	TRANSISTOR	2SB624-BV345			
Q774	8-729-141-48	TRANSISTOR	2SB624-BV345			
Q775	8-729-429-14	TRANSISTOR	UN9211			
Q776	8-729-425-64	TRANSISTOR	2SD2216-Q			
Q777	8-729-425-64	TRANSISTOR	2SD2216-Q			
Q778	8-729-425-64	TRANSISTOR	2SD2216-Q			
Q779	8-729-425-64	TRANSISTOR	2SD2216-Q			
Q784	8-729-425-50	TRANSISTOR	2SB1462-Q			
Q880	8-729-017-61	TRANSISTOR	2SB1581			
Q881	8-729-425-50	TRANSISTOR	2SB1462-Q			
Q882	8-729-427-72	TRANSISTOR	XP4501			
Q883	8-729-429-14	TRANSISTOR	UN9211			
Q884	8-729-429-14	TRANSISTOR	UN9211			
Q885	8-729-425-64	TRANSISTOR	2SD2216-Q			
Q886	8-729-429-14	TRANSISTOR	UN9211			
Q887	8-729-429-14	TRANSISTOR	UN9211			
Q888	8-729-141-48	TRANSISTOR	2SB624-BV345			
Q890	8-729-425-50	TRANSISTOR	2SB1462-Q			
Q891	8-729-425-64	TRANSISTOR	2SD2216-Q			
Q892	8-729-425-64	TRANSISTOR	2SD2216-Q			
		< RESISTOR >				
R770	1-216-845-11	METAL CHIP	100K	5%		1/16W
R771	1-216-864-11	METAL CHIP	0	5%		1/16W
R774	1-216-841-11	METAL CHIP	47K	5%		1/16W
R776	1-216-818-11	METAL CHIP	560	5%		1/16W
R777	1-216-812-11	METAL CHIP	180	5%		1/16W
R778	1-216-864-11	METAL CHIP	0	5%		1/16W
R779	1-216-835-11	METAL CHIP	15K	5%		1/16W
R780	1-216-837-11	METAL CHIP	22K	5%		1/16W
R781	1-216-821-11	METAL CHIP	1K	5%		1/16W
R782	1-216-833-11	METAL CHIP	10K	5%		1/16W
R783	1-216-833-11	METAL CHIP	10K	5%		1/16W
R784	1-216-833-11	METAL CHIP	10K	5%		1/16W
R785	1-216-833-11	METAL CHIP	10K	5%		1/16W
R786	1-216-817-11	METAL CHIP	470	5%		1/16W
R787	1-202-924-11	METAL GLAZE	240	5%		1/16W
R788	1-202-924-11	METAL GLAZE	240	5%		1/16W
R789	1-216-824-11	METAL CHIP	1.8K	5%		1/16W
R790	1-216-841-11	METAL CHIP	47K	5%		1/16W
R791	1-216-815-11	METAL CHIP	330	5%		1/16W
R792	1-216-814-11	METAL CHIP	270	5%		1/16W
R793	1-216-815-11	METAL CHIP	330	5%		1/16W
R794	1-216-816-11	METAL CHIP	390	5%		1/16W
R795	1-216-815-11	METAL CHIP	330	5%		1/16W
R796	1-216-809-11	METAL CHIP	100	5%		1/16W
R797	1-216-815-11	METAL CHIP	330	5%		1/16W
R798	1-216-815-11	METAL CHIP	330	5%		1/16W
R799	1-216-825-11	METAL CHIP	2.2K	5%		1/16W
R800	1-216-841-11	METAL CHIP	47K	5%		1/16W
R801	1-216-841-11	METAL CHIP	47K	5%		1/16W
R802	1-216-841-11	METAL CHIP	47K	5%		1/16W

Ref. No.	Part No.	Description			Remarks
R803	1-216-864-11	METAL CHIP	0	5%	1/16W
R804	1-216-839-11	METAL CHIP	33K	5%	1/16W
R805	1-216-864-11	METAL CHIP	0	5%	1/16W
R806	1-216-821-11	METAL CHIP	1K	5%	1/16W
R808	1-216-821-11	METAL CHIP	1K	5%	1/16W
R809	1-216-864-11	METAL CHIP	0	5%	1/16W
R810	1-216-834-11	METAL CHIP	12K	5%	1/16W
R811	1-216-834-11	METAL CHIP	12K	5%	1/16W
R812	1-216-834-11	METAL CHIP	12K	5%	1/16W
R813	1-216-834-11	METAL CHIP	12K	5%	1/16W
R814	1-216-853-11	METAL CHIP	470K	5%	1/16W
R815	1-216-853-11	METAL CHIP	470K	5%	1/16W
R816	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R817	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R818	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R819	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R820	1-216-803-11	METAL CHIP	33	5%	1/16W
R821	1-216-833-11	METAL CHIP	10K	5%	1/16W
R822	1-216-834-11	METAL CHIP	12K	5%	1/16W
R823	1-216-834-11	METAL CHIP	12K	5%	1/16W
R824	1-216-821-11	METAL CHIP	1K	5%	1/16W
R825	1-216-835-11	METAL CHIP	15K	5%	1/16W
R826	1-216-833-11	METAL CHIP	10K	5%	1/16W
R827	1-216-821-11	METAL CHIP	1K	5%	1/16W
R828	1-216-835-11	METAL CHIP	15K	5%	1/16W
R829	1-216-835-11	METAL CHIP	15K	5%	1/16W
R830	1-216-830-11	METAL CHIP	5.6K	5%	1/16W
R831	1-216-830-11	METAL CHIP	5.6K	5%	1/16W
R832	1-216-807-11	METAL CHIP	68	5%	1/16W
R833	1-216-295-91	CONDUCTOR, CHIP (2012)			
R843	1-216-819-11	METAL CHIP	680	5%	1/16W
R844	1-216-819-11	METAL CHIP	680	5%	1/16W
R849	1-216-816-11	METAL CHIP	390	5%	1/16W
R850	1-216-815-11	METAL CHIP	330	5%	1/16W
R851	1-216-815-11	METAL CHIP	330	5%	1/16W
R852	1-216-816-11	METAL CHIP	390	5%	1/16W
R855	1-216-834-11	METAL CHIP	12K	5%	1/16W
R856	1-216-834-11	METAL CHIP	12K	5%	1/16W
R858	1-216-816-11	METAL CHIP	390	5%	1/16W
R861	1-216-864-11	METAL CHIP	0	5%	1/16W
R862	1-216-864-11	METAL CHIP	0	5%	1/16W
R880	1-216-821-11	METAL CHIP	1K	5%	1/16W
R881	1-216-821-11	METAL CHIP	1K	5%	1/16W
R882	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R883	1-216-821-11	METAL CHIP	1K	5%	1/16W
R885	1-216-857-11	METAL CHIP	1M	5%	1/16W
R887	1-216-821-11	METAL CHIP	1K	5%	1/16W
R888	1-216-851-11	METAL CHIP	330K	5%	1/16W
R889	1-216-841-11	METAL CHIP	47K	5%	1/16W
R890	1-216-841-11	METAL CHIP	47K	5%	1/16W
R891	1-216-821-11	METAL CHIP	1K	5%	1/16W
R893	1-218-878-11	METAL CHIP	20K	0.50%	1/16W
R894	1-218-871-11	METAL CHIP	10K	0.50%	1/16W
R895	1-216-841-11	METAL CHIP	47K	5%	1/16W
R896	1-216-833-11	METAL CHIP	10K	5%	1/16W

Ref. No.	Part No.	Description			Remarks
R897	1-218-879-11	METAL CHIP	22K	0.50%	1/16W
R898	1-218-883-11	METAL CHIP	33K	0.50%	1/16W
R900	1-218-345-11	METAL GLAZE	9.1K	5%	1/16W
R901	1-216-835-11	METAL CHIP	15K	5%	1/16W
R902	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
R903	1-216-834-11	METAL CHIP	12K	5%	1/16W
R904	1-216-835-11	METAL CHIP	15K	5%	1/16W
R905	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R906	1-216-841-11	METAL CHIP	47K	5%	1/16W
R907	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
R908	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R909	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R910	1-216-843-11	METAL CHIP	68K	5%	1/16W
R911	1-216-834-11	METAL CHIP	12K	5%	1/16W
R912	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R913	1-216-815-11	METAL CHIP	330	5%	1/16W
R914	1-216-833-11	METAL CHIP	10K	5%	1/16W
R916	1-216-839-11	METAL CHIP	33K	5%	1/16W
R917	1-218-875-11	METAL CHIP	15K	0.50%	1/16W
R918	1-218-875-11	METAL CHIP	15K	0.50%	1/16W
R919	1-216-836-11	METAL CHIP	18K	5%	1/16W
R920	1-216-833-11	METAL CHIP	10K	5%	1/16W
R921	1-216-833-11	METAL CHIP	10K	5%	1/16W
R922	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R923	1-216-821-11	METAL CHIP	1K	5%	1/16W
R924	1-216-837-11	METAL CHIP	22K	5%	1/16W
R925	1-216-837-11	METAL CHIP	22K	5%	1/16W
R926	1-216-810-11	METAL CHIP	120	5%	1/16W
R927	1-216-841-11	METAL CHIP	47K	5%	1/16W
R930	1-216-833-11	METAL CHIP	10K	5%	1/16W
R931	1-216-833-11	METAL CHIP	10K	5%	1/16W
R932	1-216-821-11	METAL CHIP	1K	5%	1/16W
R933	1-216-821-11	METAL CHIP	1K	5%	1/16W
R935	1-216-821-11	METAL CHIP	1K	5%	1/16W
R936	1-216-833-11	METAL CHIP	10K	5%	1/16W
R939	1-218-897-11	METAL CHIP	120K	0.50%	1/16W
R941	1-216-833-11	METAL CHIP	10K	5%	1/16W
R942	1-218-875-11	METAL CHIP	15K	0.50%	1/16W
R943	1-218-895-11	METAL CHIP	100K	0.50%	1/16W
R944	1-216-833-11	METAL CHIP	10K	5%	1/16W
R945	1-216-833-11	METAL CHIP	10K	5%	1/16W
R947	1-216-833-11	METAL CHIP	10K	5%	1/16W
R948	1-216-833-11	METAL CHIP	10K	5%	1/16W
R951	1-216-833-11	METAL CHIP	10K	5%	1/16W
R953	1-218-891-11	METAL CHIP	68K	0.50%	1/16W
R954	1-216-864-11	METAL CHIP	0	5%	1/16W
R955	1-216-864-11	METAL CHIP	0	5%	1/16W
R957	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R958	1-218-877-11	METAL CHIP	18K	0.50%	1/16W
R959	1-218-873-11	METAL CHIP	12K	0.50%	1/16W
R961	1-216-841-11	METAL CHIP	47K	5%	1/16W
R964	1-217-671-11	METAL CHIP	1	5%	1/10W
R965	1-217-671-11	METAL CHIP	1	5%	1/10W
R966	1-217-671-11	METAL CHIP	1	5%	1/10W
R967	1-217-671-11	METAL CHIP	1	5%	1/10W

Ref. No.	Part No.	Description			Remarks
R969	1-218-292-11	METAL GLAZE	20K	5%	1/16W
R970	1-216-864-11	METAL CHIP	0	5%	1/16W
R971	1-216-864-11	METAL CHIP	0	5%	1/16W
R972	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R973	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R974	1-216-857-11	METAL CHIP	1M	5%	1/16W
R980	1-216-819-11	METAL CHIP	680	5%	1/16W
R981	1-216-835-11	METAL CHIP	15K	5%	1/16W
R982	1-216-818-11	METAL CHIP	560	5%	1/16W
R983	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R984	1-216-818-11	METAL CHIP	560	5%	1/16W
R985	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R986	1-216-805-11	METAL CHIP	47	5%	1/16W
R987	1-216-805-11	METAL CHIP	47	5%	1/16W
R988	1-216-821-11	METAL CHIP	1K	5%	1/16W
R989	1-216-821-11	METAL CHIP	1K	5%	1/16W
R990	1-216-837-11	METAL CHIP	22K	5%	1/16W
R991	1-216-821-11	METAL CHIP	1K	5%	1/16W
R992	1-217-671-11	METAL CHIP	1	5%	1/10W
R993	1-217-671-11	METAL CHIP	1	5%	1/10W
R994	1-217-671-11	METAL CHIP	1	5%	1/10W
R995	1-217-671-11	METAL CHIP	1	5%	1/10W
R996	1-216-841-11	METAL CHIP	47K	5%	1/16W
		< CONPOSITION CIRCUIT BLOCK >			
RB880	1-239-389-11	NWTWORK RESISTOR (CHIP) 47K			
RB881	1-236-904-11	NETWORK RESISTOR (CHIP) 1.0K			
RB882	1-236-412-11	NETWORK, RES 1.0K			
RB883	1-236-432-11	NETWORK, RES 47K			
RB884	1-239-389-11	NWTWORK RESISTOR (CHIP) 47K			
RB885	1-236-432-11	NETWORK, RES 47K			
		< VIBRATOR >			
X880	1-760-655-21	VIBRATOR, CRYSTAL 20MHz			

	A-7072-905-A	RT-21 BOARD, COMPLETE *********************			
					(Ref.No.5,000 Series)
		< CAPACITOR >			
C351	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C352	1-104-752-11	TANTAL. CHIP	33uF	20%	6.3V
		< CONNECTOR >			
CN351	1-565-770-11	CONNECTOR, FPC (1.0MM) (ZIF)6P			
		< DIODE >			
D351	8-719-951-20	DIODE BR1102W			
		< IC >			
IC351	8-749-923-29	IC RS-20E-T			

Ref. No.	Part No.	Description			Remarks
		< RESISTOR >			
R351	1-216-817-11	METAL CHIP	470	5%	1/16W
R352	1-216-845-11	METAL CHIP	100K	5%	1/16W
R353	1-216-805-11	METAL CHIP	47	5%	1/16W

Ref. No.	Part No.	Description			Remarks
	A-7072-886-A	SE-56 BOARD, COMPLETE (DSR-200)			
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	A-7072-977-A	SE-56 BOARD, COMPLETE (DSR-200P)			
		**********************			
		(Ref.No.4,000 Series)			
		< CAPACITOR >			
C801	1-104-908-11	TANTAL. CHIP	47uF	20%	4V
C803	1-104-852-11	TANTAL. CHIP	22uF	20%	10V
C805	1-104-908-11	TANTAL. CHIP	47uF	20%	4V
C806	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C807	1-104-852-11	TANTAL. CHIP	22uF	20%	10V
C808	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C809	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C810	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C811	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C812	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C813	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C815	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C816	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C818	1-128-257-21	ELECT CHIP	33uF	20%	10V
C819	1-128-257-21	ELECT CHIP	33uF	20%	10V
C820	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C821	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C822	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C823	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C824	1-164-360-11	CERAMIC CHIP	0.1uF		16V
		< CONNECTOR >			
CN801	1-766-336-21	CONNECTOR, FFC/FPC 6P			
		< IC >			
IC801	8-759-075-66	IC TA75S01F			
IC802	8-759-080-34	IC TA75W01FU			
IC803	8-759-234-77	IC TC4S66F			
IC804	8-759-234-77	IC TC4S66F			
IC805	8-759-058-45	IC NJM3403AV			
		< RESISTOR >			
R801	1-216-803-11	METAL CHIP	33	5%	1/16W
R802	1-216-837-11	METAL CHIP	22K	5%	1/16W
R803	1-216-837-11	METAL CHIP	22K	5%	1/16W
R804	1-216-803-11	METAL CHIP	33	5%	1/16W
R805	1-216-837-11	METAL CHIP	22K	5%	1/16W
R806	1-216-837-11	METAL CHIP	22K	5%	1/16W
R807	1-216-837-11	METAL CHIP	22K	5%	1/16W
R808	1-216-837-11	METAL CHIP	22K	5%	1/16W
R812	1-216-837-11	METAL CHIP	22K	5%	1/16W
R813	1-216-864-11	METAL CHIP	0	5%	1/16W
R814	1-216-833-11	METAL CHIP	10K	5%	1/16W
R815	1-216-833-11	METAL CHIP	10K	5%	1/16W
R816	1-208-846-11	METAL GLAZE	470K	0.50%	1/10W
R817	1-208-846-11	METAL GLAZE	470K	0.50%	1/10W
R818	1-208-846-11	METAL GLAZE	470K	0.50%	1/10W
R819	1-208-846-11	METAL GLAZE	470K	0.50%	1/10W
R820	1-216-833-11	METAL CHIP	10K	5%	1/16W
R821	1-216-850-11	METAL CHIP	270K	5%	1/16W
R822	1-216-850-11	METAL CHIP	270K	5%	1/16W
R823	1-216-833-11	METAL CHIP	10K	5%	1/16W
R824	1-216-835-11	METAL CHIP	15K	5%	1/16W
R825	1-216-835-11	METAL CHIP	15K	5%	1/16W
		< SENSOR >			
SE801	1-810-725-71	SENSOR, ANGULAR VELOCITY (YAW)			
SE802	1-810-725-81	SENSOR, ANGULAR VELOCITY (PITCH)			
		< THERMISTOR >			
TH801	1-809-361-21	THERMISTOR (2125)			

Ref. No.	Part No.	Description			Remarks
	A-7072-899-A	SW-286 BOARD, COMPLETE (DSR-200)			
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	A-7072-978-A	SW-286 BOARD, COMPLETE (DSR-200P)			
		************************			
		(Ref.No.4,000 Series)			
		< CONNECTOR >			
* CN850	1-580-756-21	PIN, CONNECTOR 7P			
CN851	1-770-036-11	CONNECTOR, FPC/FFC 5P			
		< RESISTOR >			
R851	1-216-833-11	METAL CHIP	10K	5%	1/16W
		< SWITCH >			
S850	1-570-984-11	SWITCH, TOGGLE (CAMCORDER/VTR)			
S851	1-570-984-11	SWITCH, TOGGLE (POWER)			
S852	1-571-414-11	SWITCH, TOGGLE (AUTO/MANUAL)			

Ref. No.	Part No.	Description			Remarks
	A-7072-901-A	VF-105 BOARD, COMPLETE			
		***********************			
		(Ref.No.1,000 Series)			
		< CAPACITOR >			
C701	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C703	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C704	1-162-974-11	CERAMIC CHIP	0.01uF		50V
		< CONNECTOR >			
CN701	1-569-775-21	PIN, CONNECTOR 5P			
		< JACK >			
J701	1-562-183-00	SOCKET 8P (VIEW FINDER)			

Ref. No.	Part No.	Description	Remarks
	A-7072-900-A	VK-41P BOARD, COMPLETE (DSR-200P) **********************	
	A-7072-952-A	VK-41 BOARD, COMPLETE (DSR-200) *********************	
		(Ref.No.4,000 Series)	
		< CONNECTOR >	
CN501	1-691-485-21	CONNECTOR, FFC/FPC 6P	
		< DIODE >	
D501	8-719-420-14	DIODE MA8082-M	
D502	8-719-420-14	DIODE MA8082-M	
D503	8-719-420-14	DIODE MA8082-M	
D504	8-719-420-14	DIODE MA8082-M (DSR-200)	
		< COIL >	
L501	1-412-979-21	INDUCTOR 1uH	
		< RESISTOR >	
R501	1-216-826-11	METAL CHIP 2.7K 5%	1/16W
R502	1-216-828-11	METAL CHIP 3.9K 5%	1/16W
R503	1-216-832-11	METAL CHIP 8.2K 5%	1/16W
R505	1-216-826-11	METAL CHIP 2.7K 5%	1/16W
R506	1-216-828-11	METAL CHIP 3.9K 5%	1/16W
R507	1-216-832-11	METAL CHIP 8.2K 5%	1/16W
R508	1-216-838-11	METAL CHIP 27K 5%	1/16W
R509	1-216-826-11	METAL CHIP 2.7K 5%	1/16W
R510	1-216-828-11	METAL CHIP 3.9K 5%	1/16W
R511	1-216-832-11	METAL CHIP 8.2K 5%	1/16W
R512	1-216-838-11	METAL CHIP 27K 5%	1/16W
R513	1-216-821-11	METAL CHIP 1K 5% 1/16W	(DSR-200)
		< SWITCH >	
S501	1-692-111-11	SWITCH, KEY BOARD (MENU)	
S502	1-692-111-11	SWITCH, KEY BOARD (MENU UP)	
S503	1-692-111-11	SWITCH, KEY BOARD (MENU DOWN)	
S504	1-692-111-11	SWITCH, KEY BOARD (MENU EXECUTE)	
S506	1-692-111-11	SWITCH, KEY BOARD (STOP)	
S507	1-692-111-11	SWITCH, KEY BOARD (REW)	
S508	1-692-111-11	SWITCH, KEY BOARD (PLAY)	
S509	1-692-111-11	SWITCH, KEY BOARD (AUDIO DUB)	
S510	1-572-498-11	SWITCH, SLIDE (REC) (DSR-200)	
S512	1-692-111-11	SWITCH, KEY BOARD (PAUSE)	
S513	1-692-111-11	SWITCH, KEY BOARD (FF)	
S514	1-692-111-11	SWITCH, KEY BOARD (SLOW)	
S515	1-692-111-11	SWITCH, KEY BOARD (FRAME RVS)	
S516	1-692-111-11	SWITCH, KEY BOARD (FRAME FWD)	
S518	1-570-711-11	SWITCH, SLIDE (TC) (DSR-200)	

Ref. No.	Part No.	Description	Remarks
	A-7072-954-A	XL-1 BOARD, COMPLETE ********************	
		(Ref.No.5,000 Series)	
		< CAPACITOR >	
C201	1-162-964-11	CERAMIC CHIP 0.001uF 10%	50V
C202	1-162-964-11	CERAMIC CHIP 0.001uF 10%	50V
C211	1-135-259-11	TANTAL. CHIP 10uF 20%	6.3V
C212	1-104-851-11	TANTAL. CHIP 10uF 20%	10V
C213	1-135-259-11	TANTAL. CHIP 10uF 20%	6.3V
C214	1-135-181-21	TANTALUM CHIP 4.7uF 20%	6.3V
C215	1-135-181-21	TANTALUM CHIP 4.7uF 20%	6.3V
C216	1-135-181-21	TANTALUM CHIP 4.7uF 20%	6.3V
C217	1-135-181-21	TANTALUM CHIP 4.7uF 20%	6.3V
C218	1-164-156-11	CERAMIC CHIP 0.1uF	25V
		< CONNECTOR >	
CN201	1-568-006-11	CONNECTOR, XLR TYPE 3P (CH-1 AUDIO IN)	
CN202	1-568-006-11	CONNECTOR, XLR TYPE 3P (CH-2 AUDIO IN)	
CN203	1-565-728-11	CONNECTOR, FPC 17P	
* CN204	1-766-383-11	PIN, CONNECTOR (1.5MM) (SMD) 12P	
CN205	1-764-508-11	CONNECTOR, BNC (VIDEO OUT)	
		< DIODE >	
D201	8-719-404-49	DIODE MA111	
D202	8-719-421-59	DIODE MA3130WA-TX	
D203	8-719-421-59	DIODE MA3130WA-TX	
D204	8-719-421-59	DIODE MA3130WA-TX	
D205	8-719-421-59	DIODE MA3130WA-TX	
D206	8-719-420-14	DIODE MA8082-M	
D208	8-719-421-59	DIODE MA3130WA-TX	
		< IC >	
IC201	8-759-111-56	IC uPC4572G2	
IC202	8-759-710-79	IC NJM2107F	
		< COIL >	
L201	1-414-406-11	INDUCTOR 220uH	
L202	1-414-406-11	INDUCTOR 220uH	
L203	1-414-406-11	INDUCTOR 220uH	
L204	1-414-406-11	INDUCTOR 220uH	
		< RESISTOR >	
R201	1-218-863-11	METAL CHIP 4.7K 0.50%	1/16W
R202	1-218-863-11	METAL CHIP 4.7K 0.50%	1/16W
R203	1-218-863-11	METAL CHIP 4.7K 0.50%	1/16W
R204	1-218-863-11	METAL CHIP 4.7K 0.50%	1/16W
R205	1-218-863-11	METAL CHIP 4.7K 0.50%	1/16W

XL-1

Ref. No.	Part No.	Description	Remarks
R206	1-218-863-11	METAL CHIP 4.7K 0.50%	1/16W
R207	1-218-863-11	METAL CHIP 4.7K 0.50%	1/16W
R208	1-218-863-11	METAL CHIP 4.7K 0.50%	1/16W
R210	1-218-887-11	METAL CHIP 47K 0.50%	1/16W
R211	1-218-887-11	METAL CHIP 47K 0.50%	1/16W
R212	1-543-958-11	BEAD, FERRITE (CHIP)	
R213	1-543-958-11	BEAD, FERRITE (CHIP)	
R214	1-543-958-11	BEAD, FERRITE (CHIP)	
R215	1-543-958-11	BEAD, FERRITE (CHIP)	
R216	1-216-864-11	METAL CHIP 0 5%	1/16W
R217	1-216-853-11	METAL CHIP 470K 5%	1/16W
R224	1-543-954-11	BEAD, FERRITE (CHIP)	
R227	1-543-954-11	BEAD, FERRITE (CHIP)	

MISCELLANEOUS
****

Ref. No.	Part No.	Description	Remarks
7	1-777-511-11	CABLE, FLEXIBLE FLAT (FRX-3)	
20	1-777-505-11	CABLE, FLEXIBLE FLAT (FLS-2) 6P	
55	1-777-508-11	CABLE, FLEXIBLE FLAT (FMM-16) 8P	
59	1-537-833-31	TERMINAL BOARD, BATTERY	
65	8-814-287-00	MICROPHONE, BUILT-IN C2037	
68			
106	1-473-866-11	SWITCH BLOCK, CONTROL (FI4520)	
108	1-762-821-11	SWITCH, ROTARY (ENCODER)	
115	1-504-753-11	SPEAKER (2.8CM)	
119	1-801-515-21	DISPLAY PANEL, LIQUID CRYSTAL	
⚠162	1-589-946-11	EVF, MAIN BOARD (DSR-200)	
⚠162	1-589-946-21	EVF, MAIN BOARD (DSR-200P)	
203	1-777-495-11	CABLE, FLEXIBLE FLAT (FRA-1) 34P	
207	1-777-502-11	CABLE, FLEXIBLE FLAT (FAV-1) 6P	
209	1-777-496-11	CABLE, FLEXIBLE FLAT (FJA-1) 15P	
211	1-777-497-11	CABLE, FLEXIBLE FLAT (FJA-2) 28P	
213	1-777-500-11	CABLE, FLEXIBLE FLAT (FAL-1) 20P	
214	1-777-504-11	CABLE, FLEXIBLE FLAT (FAF-2) 40P	
253	1-777-498-11	CABLE, FLEXIBLE FLAT (FCA-4) 24P	
256	1-777-510-11	CABLE, FLEXIBLE FLAT (FCL-2) 30P	
317	1-473-867-21	SWITCH BLOCK, CONTROL (ZK4520)	
319	1-777-507-11	CABLE, FLEXIBLE FLAT (FME-1) 12P	
321	1-777-501-11	CABLE, FLEXIBLE FLAT (FAG-1) 13P	
408	1-777-501-11	CABLE, FLEXIBLE FLAT (FAG-1) 13P	
409	1-777-499-11	CABLE, FLEXIBLE FLAT (FJJ-1) 15P	
410	1-777-509-11	CABLE, FLEXIBLE FLAT (FMJ-2) 10P	
456	1-500-397-11	CORE, FERRITE	
503	1-547-795-31	ZOOM LENS (VCL-5910WA)	
730	1-801-525-11	SENSOR, DEW CONDENSATION	
M901	A-7044-013-A	DRUM ASSY (DEH-09A-R)	
M902	8-835-575-01	MOTOR, DC SCD13A/J-N	
M903	X-3946-702-1	MOTOR ASSY, CAM	
M904	3-709-155-01	MOTOR, FOCUS	
M905	3-709-154-01	MOTOR, ZOOM	
M906	3-709-014-01	MOTOR UNIT, VAP LOCK	

ACCESSORIES & PACKING MATERIALS
****

Ref. No.	Part No.	Description	Remarks
	X-3947-241-1	CUSHION D ASSY	
	1-575-334-11	CORD,CONNECTION(A/V CABLE STEREO) 1.5m	
	1-575-335-21	CORD,CONNECTION(S VIDEO CABLE) 1.5m	
	3-701-625-01	BAG, POLYETHYLENE	
	3-858-185-11	MANUAL, INSTRUCTION (ENGLISH) (DSR-200P)	
	3-858-185-21	MANUAL, INSTRUCTION (ENGLISH) (DSR-200)	
	3-858-185-31	MANUAL, INSTRUCTION (FRENCH) (DSR-200)	
	3-858-185-41	MANUAL, INSTRUCTION (FRENCH) (DSR-200P)	
	3-858-185-51	MANUAL, INSTRUCTION (DUTCH) (DSR-200P)	
*	3-973-018-21	CARTON, INDIVIDUAL (DSR-200)	
*	3-973-018-41	CARTON, INDIVIDUAL (DSR-200P)	
*	3-973-063-03	CUSHION, ACC	
	8-917-569-90	REMOTE COMMANDER RMT-806 SET (DSR-200)	
	8-917-570-90	REMOTE COMMANDER RMT-807 SET (DSR-200P)	
**	AC-V615	AC POWER ADAPTOR	
***	NP-F730	BATTERY PACK	

NOTE. **MARK PARTS IS AVAILABLE FOR REPAIR SERVICE.
***MARK PARTS IS AVAILABLE AS OPTIONAL ACCESSORY.

Note :	Note :
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

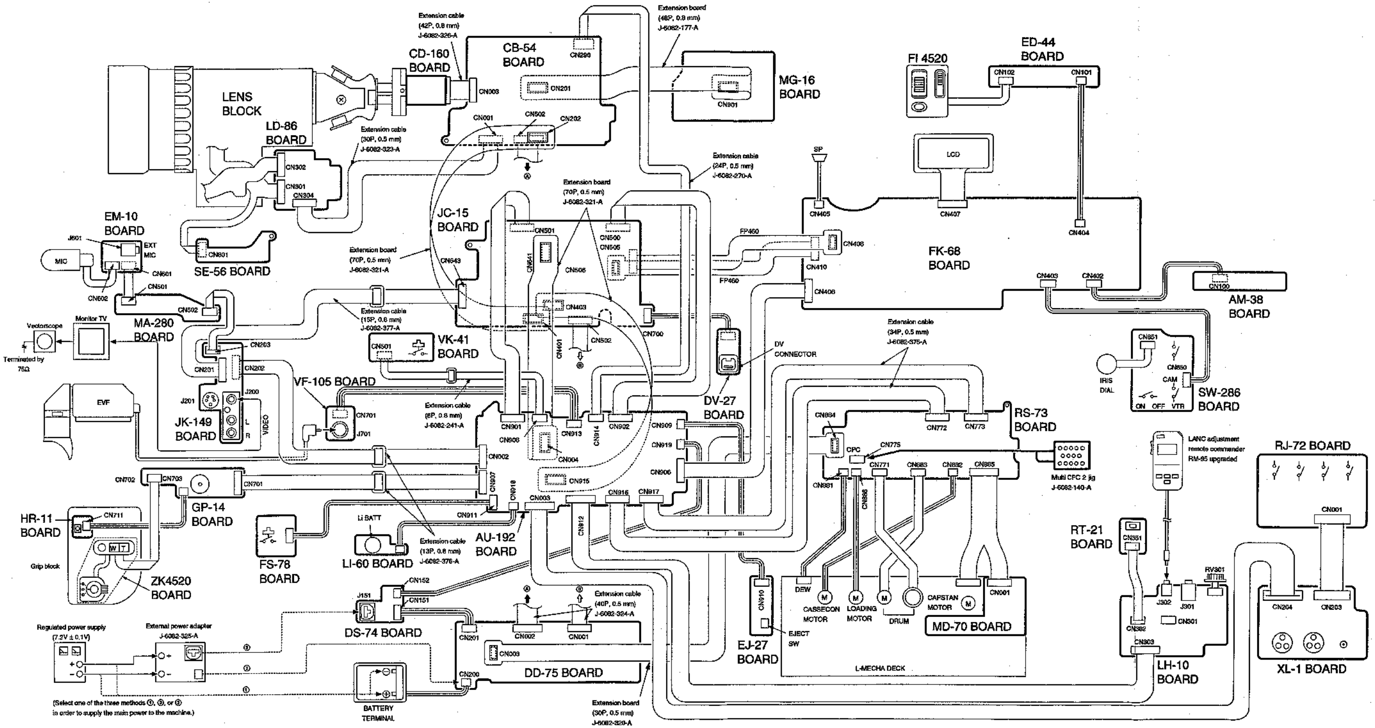

Extension cable
(42P, 0.8 mm)
J-6082-326-A
Extension board
(48P, 0.8 mm)
J-6082-177-A
CD-160 BOARD
CB-54 BOARD
CN290
CN003
CN201
MG-16 BOARD
CN901
LENS BLOCK
LD-86 BOARD
CN001
CN502
CN202
Extension cable
(30P, 0.5 mm)
J-6082-323-A
CN302
CN301
CN304
Ⓐ
Extension cable
(24P, 0.5 mm)
J-6082-270-A
Extension board
(70P, 0.5 mm)
J-6082-321-A
EM-10 BOARD
J601
EXT MIC
MIC
CN601
CN602
CN501
CN801
SE-56 BOARD
JC-15 BOARD
CN501
CN541
CN506
CN500
CN505
CN643
FP460
FP460
Extension board
(70P, 0.5 mm)
J-6082-321-A
CN502
MA-280 BOARD
Monitor TV
Vectorscope
Terminated by 75Ω
Extension cable
(15P, 0.8 mm)
J-6082-377-A
CN403
CN401
CN502
Ⓑ
CN700
VK-41 BOARD
CN501
CN203
CN201
CN202
J200
J201
JK-149 BOARD
L
R
VIDEO
EVF
VF-105 BOARD
CN701
J701
Extension cable
(6P, 0.8 mm)
J-6082-241-A
CN901
CN908
CN913
CN914
CN902
CN004
CN909
CN919
CN906
CN002
CN702
CN703
CN701
CN907
CN918
CN915
GP-14 BOARD
HR-11 BOARD
CN711
Grip block
W T
ZK4520 BOARD
CN911
CN003
CN916
CN917
CN912
FS-78 BOARD
Li BATT
LI-60 BOARD
Extension cable
(13P, 0.8 mm)
J-6082-376-A
AU-192 BOARD
CN152
J151
CN151
DS-74 BOARD
Ⓐ
Ⓑ
Extension cable
(40P, 0.5 mm)
J-6082-324-A
CN201
CN002
CN001
CN003
CN200
DD-75 BOARD
Regulated power supply
(7.2V ± 0.1V)
External power adapter
J-6082-325-A
③
②
①
BATTERY TERMINAL
(Select one of the three methods ①, ③, or ③
in order to supply the main power to the machine.)
Extension board
(30P, 0.5 mm)
J-6082-320-A
FI 4520
ED-44 BOARD
CN102
CN101
SP
LCD
CN405
CN407
CN404
CN408
CN410
CN406
FK-68 BOARD
CN403
CN402
CN100
AM-38 BOARD
DV CONNECTOR
DV-27 BOARD
Extension cable
(34P, 0.5 mm)
J-6082-375-A
CN851
CN850
CAM
IRIS DIAL
ON OFF VTR
SW-286 BOARD
RS-73 BOARD
CN884
CN772
CN773
CPC
CN775
CN881
CN771
CN883
CN882
CN885
CN886
Multi CPC 2 jig
J-6082-140-A
LANC adjustment
remote commander
RM-95 upgraded
RJ-72 BOARD
CN001
RT-21 BOARD
CN351
RV301
J302
J301
CN301
CN302
CN303
LH-10 BOARD
CN204
CN203
XL-1 BOARD
CN910
EJECT SW
EJ-27 BOARD
DEW
CASSECON MOTOR
LOADING MOTOR
DRUM
CAPSTAN MOTOR
M
CN001
MD-70 BOARD
L-MECHA DECK

Fig. 6-1-2

5. LINE input distortion factor check

Purpose : Check distortion factor of the LINE system.

Mode	Camera mode record and playback
Signal	1kHz 16dBu signal : AUDIO IN input terminal left and right channels
Measurement Point	Audio output terminal, left and right channels
Measuring Instrument	Distortion level meter
Specification Value	0.09% or less (20kHz low-pass filter on)

Note 1 : Set the AUDIO mode switch (FK-68 board S401) to 16 BIT position.
Note 2 : Set the LINE/MIC (CH-1) switch (RJ-72 board S003) to R LINE position.
Note 3 : Set the LINE/MIC (CH-2) switch (RJ-72 board S004) to R LINE position.

Check procedure:

Order	Procedure
1	Input the 1kHz 16dBu signal to the AUDIO IN terminal.
2	Start recording in camera mode.
3	Playback the recorded segment.
4	Confirm that the distortion factor satisfies the specification value.

6. LINE input noise level check

Purpose : Check noise level of the LINE system.

Mode	Camera mode record and playback
Signal	No input signal : Connect a shorting plug to the AUDIO IN input terminal left and right channels.
Measurement Point	Audio output terminal, left and right channels
Measuring Instrument	Audio level meter
Specification Value	–75dBs or less (IHF-A filter on, 20kHz low-pass filter on)

Note 1 : Set the AUDIO mode switch (FK-68 board S401) to 16 BIT position.
Note 2 : Set the LINE/MIC (CH-1) switch (RJ-72 board S003) to R LINE position.
Note 3 : Set the LINE/MIC (CH-2) switch (RJ-72 board S004) to R LINE position.

Check procedure:

Order	Procedure
1	Connect a shorting plug to the AUDIO IN terminal. (Alternately short the AUDIO IN terminal with GND.)
2	Start recording in camera mode.
3	Playback the recorded segment.
4	Confirm that the noise level satisfies the specification value.

7. LINE input separation check

Purpose : Check channel separation of the LINE system.

Mode	Camera mode record and playback
Signal	1kHz 16dBu signal : AUDIO IN input terminal left channel only. (Open the right channel of the AUDIO IN terminal.)
Measurement Point	Audio output terminal, right channel
Measuring Instrument	Audio level meter
Specification Value	–70dBs or less (IHF-A filter on, 20 kHz low-pass filter on)

Note 1 : Set the AUDIO mode switch (FK-68 board S401) to 16 BIT position.
Note 2 : Set the LINE/MIC (CH-1) switch (RJ-72 board S003) to R LINE position.
Note 3 : Set the LINE/MIC (CH-2) switch (RJ-72 board S004) to R LINE position.

Check procedure:

Order	Procedure
1	Connect 1kHz, 16dBu signal to the left channel only of the AUDIO IN terminal. (Connect the right channel of the AUDIO IN terminal with GND.)
2	Start recording in camera mode.
3	Playback the recorded segment.
4	Confirm that the signal level of the right channel of the audio output terminal satisfies the specification value.

8. Audio after-recording playback check

Purpose : Check playback function of audio after-recording

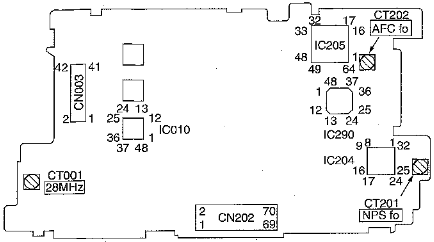
Mode	Camera mode record and VTR playback
Signal	• MIC INPUT (L/R) ① 400Hz, –56dBs (normal recording mode) ② 1kHz, –56dBs (after-recording mode) (Note 1-3)
Measurement Point	Audio output terminal, right and left channels
Measuring Instrument	Oscilloscope
Specification Value	The mixed output of the 400Hz and 1kHz signals must be output.

Note 1 : Set the AUDIO mode switch (FK-68 S401) to 12 BIT position.
Note 2 : Set the LINE/MIC (CH-1) switch (RJ-72 board S003) to F MIC position.
Note 3 : Set the LINE/MIC (CH-2) switch (RJ-72 board S004) to F MIC position.

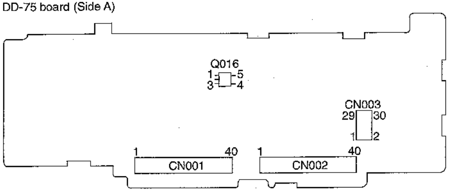
Check procedure:

Order	Procedure
1	Connect 400Hz, –56dBs signal to the MIC (PLUG IN POWER) terminal.
2	Start recording in camera mode.
3	Rewind the recorded tape to the start point of recording at step 2. (VTR mode)
4	Connect 1kHz, –56dBs signal to the MIC (PLUG IN POWER) terminal.
5	Press the PB button, then press the PAUSE immediately to enter the PAUSE mode.
6	Press the AUDIO DUB button.
7	Press the PAUSE button again to cancel the PAUSE mode. (Then after-recording starts.)
8	Playback the recorded segment.
9	Confirm that the mixed output of the 400Hz and 1kHz signals is output.

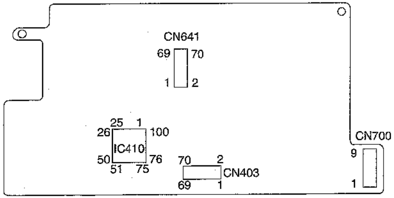
CB-54 board (Side A)



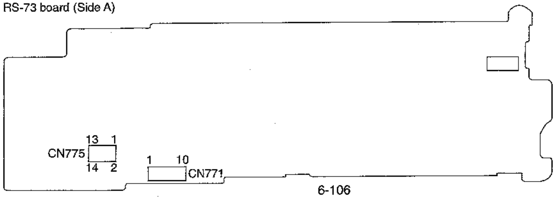
DD-75 board (Side A)



JC-15 board (Side A)



RS-73 board (Side A)



1-1-2. Preparations

Note 1 : Refer to "2. Disassembly" for details of how to remove the cabinet and the respective boards.

Note 2 : Removal of the lens block and, CB-54, JC-15 and AU-192 boards is not necessary if only adjustments are to be made.

1) Connect the adjustment equipment as shown in Fig. 6-1-2.
2) Set the camera and pattern box as shown in Fig. 6-1-3.
3) If the "forced camera power supply ON mode" is established, the camera power supply can be turned ON, even though the CABINET (R) ASSY (POWER, VTR/CAM, FOCUS and IRIS switches are mounted in it) is removed.

   To remove the CABINET (R) ASSY, remove first the following connectors:
   1. FK-68 board CN406 (40P, 0.5 mm)
   2. FK-68 board CN408 (30P, 0.5 mm)
   3. FK-68 board CN410 (30P, 0.5 mm)

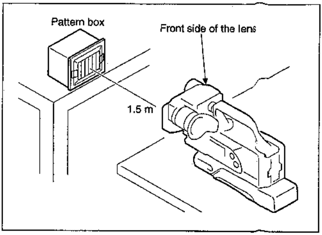


Fig. 6-1-3

(a) How to set the "forced camera power supply ON mode"
While the NOR-ADJ (or HOLD) switch of the adjustment remote commander has been set to the ADJ (or ON) position, apply 7.2 Vdc to the power input terminal. (Refer to section "1-1-4. Adjustment remote commander (RM-95 upgraded)" (See page 6-7.) for operating procedure fo the adjustment remote commander.)
1) Set data : 01 to page : 1, address : 00.
2) Set data : 01 to page : D, address : 03, and press the PAUSE button of the adjustment remote commander.

The camera power supply can be turned ON even thought the CABINET (R) ASSY has been removed using the above steps. After completing adjustments, be sure to exit the "forced power supply ON mode".

(b) How to exit the "forced camera ON mode"
1) Set data : 01 to page : 1, address : 00.
2) Set data : 00 to page : D, address : 03, and press the PAUSE button of the adjusting remote commander.
3) Set data : 00 to page : 1, address : 00.

Note 3 : When performing address setting of the adjustment remote commander, increment or decrement the address of the adjustment remote commander so that the page 9 data must not be set.

1-1-3. Precautions

1. Switch settings

Adjust the switches to the following positions without loading the cassette tape unless otherwise specified.

1) Camera/video power switch
   (SW-286 board S850) .... CAMERA
2) MANUAL/AUTO SWITCH (SW-286 board S852) .... AUTO
3) AUTO LOCK (AM-38 board S004) .... ON
4) AUDIO MONITOR (FK-68 board S415) .... MIX
5) SPEAKER (FK-68 board S402) .... ON
6) AUDIO MODE (FK-68 board S401) 16BIT
7) REC LEVEL CH-1 (FK-68 board S406) .... NORM
8) REC LEVEL CH-2 (FK-68 board S407) .... NORM
9) DIGITAL MODE (FK-68 board S417) .... OVERLAP
10) STEADY SHOT (FK-68 board S404) .... OFF
11) ND FILTER (LENS BLOCK) .... OFF
12) LINE/MIC (CH-1) (RJ-72 board S003) .... R LINE
13) LINE/MIC (CH-2) (RJ-72 board S004) .... R LINE

2. Adjustment sequence

Adjust in the given order.

3. Subject

1) Color bar chart (Standard picture frame)
   - Adjust the picture frame as shown in Fig. 6-1-4.
   - Adjust camera zooming and direction until the camera output waveform on the oscilloscope shown in Fig. 6-1-4 (a) and the color picture on the monitor TV shown in Fig. 6-1-4 (b) have been acquired.
   - Maintain this setup until adjustment is complete.
2) White pattern (Standard picture frame)
   Remove the color bar chart from the pattern box and adjust the camera setup until the white pattern picture frame is the same size and same position as the color bar chart (the standard picture frame).

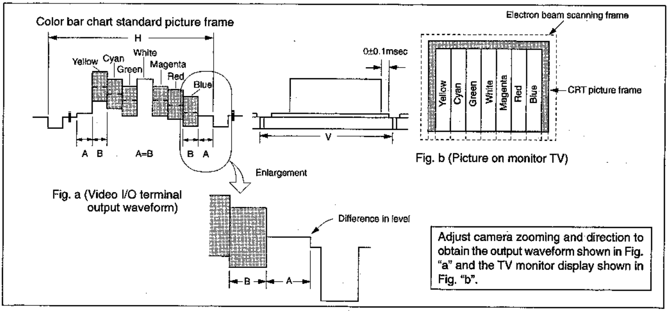

Color bar chart standard picture frame
H
Yellow
Cyan
White
Green
Magenta
Red
Blue
A
B
A=B
B
A
0±0.1msec
V
Enlargement
Difference in level
B
A
Electron beam scanning frame
Yellow
Cyan
Green
White
Magenta
Red
Blue
CRT picture frame

Fig. a (Video I/O terminal output waveform)

Fig. b (Picture on monitor TV)

Adjust camera zooming and direction to obtain the output waveform shown in Fig. "a" and the TV monitor display shown in Fig. "b".

Fig. 6-1-4

3) Chart for flange back adjustment
   Join together a piece of white A0 size paper (1189mm × 841 mm) and a piece of black paper to make the chart shown in Fig. 6-1-5.

Note : Use a non-reflecting and non-glazing vellum paper. The size must be A0 or larger and the joint between the white and black paper must not have any undulations.

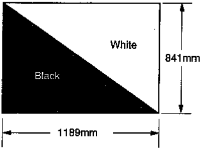

White
Black
841mm
1189mm

Fig. 6-1-5

1-1-4. Adjustment remote commander (RM-95 upgraded)

To perform adjustment, the adjustment data stored in the non-volatile memory must be rewritten using the adjustment remote commander (RM-95 upgraded).

The adjustment remote commander uses the remote commander signal line (LANC) to interactively communicate with the merchandise. The page, address and up/down command data are sent from the adjustment remote commander to the merchandise. In return, the page, address and data are sent to the adjustment remote commander from the merchandise.

1. Using the adjustment remote commander

1) Connect the adjustment remote commander to the LANC terminal (LH-10 board J302).
2) Set the NOR-ADJ (or HOLD) switch of the adjustment remote commander to the "ADJ" (or ON) (service) position.
   If the adjustment remote commander is correctly connected, the adjustment remote commander's LED will show the display as shown in Fig. 6-1-6.
3) Bit value discrimination
   It is necessary to discriminate between the bit values with the data displayed on the adjustment remote commander for all following items. Identify whether the bit value is "1" or "0" with the use of the following diagram.

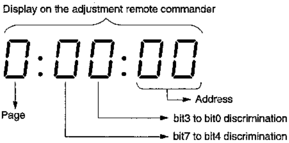

Display on the adjustment remote commander
0:00:00
Page
Address
bit3 to bit0 discrimination
bit7 to bit4 discrimination

Fig. 6-1-6

4) The adjustment remote controller is operated as follows:
- Changing the page
  The pages increase when the EDIT SEARCH (+) button is pressed and decrease when the EDIT SEARCH (–) button is pressed. Altogether there are 16 pages from page "0" to page "F".
- Changing the address
  The address increases when the FF (▶▶) button is pressed, and decreases when the REW (◀◀) button is pressed. Altogether there are 256 addresses from address "00" to address "FF". Some addresses, which are not used during adjustment, do not appear.

Hexadecimal notation	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
LCD display	0	1	2	3	4	5	6	7	8	9	A	b	c	d	E	F
Decimal notation after conversion	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

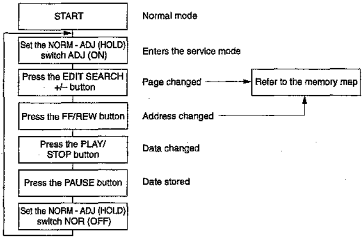
	Display on the adjustment remote commander	Bit values			
		bit3 or bit7	bit2 or bit6	bit1 or bit5	bit0 or bit4
	0	0	0	0	0
	1	0	0	0	1
	2	0	0	1	0
	3	0	0	1	1
	4	0	1	0	0
	5	0	1	0	1
	6	0	1	1	0
	7	0	1	1	1
Ⓐ	8	1	0	0	0
	9	1	0	0	1
	A (A)	1	0	1	0
	B (b)	1	0	1	1
	C (c)	1	1	0	0
	D (d)	1	1	0	1
Ⓑ	E (E)	1	1	1	0
	F (F)	1	1	1	1

(Example) If "8E" is displayed on the adjustment remote commander, the bit values for bit7 to bit4 are shown in the Ⓐ column, and the bit values for bit3 to bit0 are shown in the Ⓑ column.

- Taking note the already-stored adjustment data
  The previous adjustment can be erased if the adjustment remote commander is incorrectly handled. To prevent this, it is recommended that all the stored adjustment data be noted down on the attached page F address list.
- Changing the data (Data setting)
  The data increases when the PLAY (▶) button is pressed, and decreases when the STOP (■) button is pressed. Altogether there 256 data from data "00" to data "FF".
- Storing the data
  Press the PAUSE button to store the adjustment data (pages E and F) into the non-volatile memory.
  (If the PAUSE button is not pressed after completing the adjustment, the new adjustment data will not be stored in the non-volatile memory.)

5) After completing all adjustments, turn off the main power supply (7.2 V) once. This releases the adjustment mode (all modes except for pages E and F).

[Sequence of Service Modes Using the Adjustment Remote Commander]


START
Normal mode
Set the NORM - ADJ (HOLD) switch ADJ (ON)
Enters the service mode
Press the EDIT SEARCH +/– button
Page changed
Refer to the memory map
Press the FF/REW button
Address changed
Press the PLAY/ STOP button
Data changed
Press the PAUSE button
Date stored
Set the NORM - ADJ (HOLD) switch NOR (OFF)

Command Name	Command Function	Normal LANC Command
Page Up	Page + 1	Edit Search +
Page Down	Page – 1	Edit Search –
Direct Page Set	Sets the specified page	Event Clear
Address Up	Address + 1	Fast Forward
Address Down	Address – 1	Rewind
Data Up	Data + 1	Play Back
Data Down	Data – 1	Stop
Store	Stores data in the EE PROM.	Pause

2. Precautions when using the adjustment remote commander

Mishandling of the adjustment remote commander may erase the correct adjustment data which has already been stored in the memory. To prevent this, it is recommended that all adjustment data is noted down on the attached page F address list before starting adjustments in addition to all new adjustment data after the completion of each adjustment step.

1-1-5. Page F address list

Note 1 : The initial value of the adjustment data is the data immediately after execution of Pages E and F data initialization, and Page F data modification. They are different from the value after all adjustments are executed.

Note 2 : When the arrow mark ← is shown in the memo column of the adjustment data, it indicates that the data of that address is the fixed data (fixed to the initial value).

Address	Adjustment Data	
	Initial Value	Memo Column
00	BC	←
01	0C : NTSC, 05 : PAL	←
02	00	←
03	95	
04	93	
05	97	
06	82	
07	66	
08	83	
09	B7	
0A	B8	
0B	78	
0C	79	
0D	C5	
0E	21	←
0F	1C	←
10	39	←
11	10	←
12	35	←
13	29	←
14	B8	←
15	80	←
16	FF	←
17	D5	
18	EC	
19	20	
1A	20	
1B	50	←
1C	7F	←
1D	1A	←
1E	19	←
1F	22 : NTSC, 00 : PAL	←
20	05 : NTSC, 00 : PAL	←
21	2F	←
22	0E	←
23	27	←
24	10	←
25	B9	←
26	30	←
27	20	←
28	2C	
29	00	
2A	50	

Table. 6-1-1 (1)

Address	Adjustment Data	
	Initial Value	Memo Column
2B	00	
2C	00	←
2D	20	←
2E	20	←
2F	02	←
30	A0	
31	6C	
32	F0	←
33	00	←
34	7D	
35	85	
36	10	←
37	10	←
38	00	←
39	00	←
3A	35	←
3B	04	←
3C	30	←
3D	90	←
3E	62	←
3F	47	←
40	7A	←
41	1A	←
42	86	←
43	18	←
44	C9	←
45	A2	←
46	B9	←
47	9F	←
48	8E	←
49	6E	←
4A	81	←
4B	6F	←
4C	78	←
4D	20	←
4E	88	←
4F	67	←
50	5C	←
51	5C	←
52	4D	←
53	20	←
54	50	←
55	5B	←

Table. 6-1-1 (2)

Address	Adjustment Data	
	Initial Value	Memo Column
56	3D	←
57	10	←
58	3F	←
59	0A	←
5A	04	←
5B	E0	←
5C	04	←
5D	02	←
5E	20	←
5F	40	←
60	00	←
61	FF	←
62	00	←
63	FF	←
64	00	←
65	FF	←
66	20 : NTSC, 21 : PAL	←
67	B4	←
68	0C : NTSC, 10 : PAL	←
69	73 : NTSC, 87 : PAL	←
6A	00	←
6B	02	←
6C	FE	
6D	00	
6E	00	←
6F	82 : NTSC, 83 : PAL	←
70	00	←
71	00 : NTSC, 02 : PAL	←
72	0A	←
73	20	←
74	04	←
75	87	
76	C7	←
77	2C	←
78	A0	←
79	30 : NTSC, 28 : PAL	←
7A	20 : NTSC, 1B : PAL	←
7B	39	←
7C	50	←
7D	5C	←
7E	8C	←
7F	80	←
80	03	←
81	01	←
82	60	←
83	03	←
84	00	←
85	20 : NTSC, 21 : PAL	←
86	24	←

Table. 6-1-1 (3)

Address	Adjustment Data	
	Initial Value	Memo Column
87	0C : NTSC, 10 : PAL	←
88	17 : NTSC, 1B : PAL	←
89	93	←
8A	DC	←
8B	EA	←
8C	AF	←
8D	EE	←
8E	A8	←
8F	1A	←
90	90	←
91	C0	←
92	04	←
93	08	←
94	90	←
95	C0	←
96	B0	←
97	A0	←
98	80	←
99	A0	←
9A	98	←
9B	90	←
9C	70	←
9D	60	←
9E	08	←
9F	5B	←
A0	2F	←
A1	04	←
A2	32	←
A3	79	←
A4	AF	←
A5	2C	←
A6	40	←
A7	07	
A8	5A	
A9	18	
AA	A1	
AB	13	
AC	C8	
AD	00	
AE	00	
AF	0F	
B0	00	
B1	00	←
B2	00	←
B3	47	←
B4	EC	←
B5	82	←
B6	88	←
B7	14	←

Table. 6-1-1 (4)

Address	Adjustment Data	
	Initial Value	Memo Column
B8	4E	←
B9	5A	←
BA	62	←
BB	31	←
BC	01	←
BD	05	←
BE	FF	←
BF	44	←
C0	84	←
C1	33	←
C2	02	←
C3	06	←
C4	0A	←
C5	0E	←
C6	01	←
C7	02	←
C8	02	←
C9	01	←
CA	04	←
CB	56	←
CC	50	←
CD	50	←
CE	00	←
CF	66	←
D0	00	←
D1	02	←
D2	61	←
D3	01	←
D4	FA	←
D5	00	←
D6	4F	←
D7	10	←
D8	2F	←
D9	20	←
DA	2E	←
DB	E5	←

Table. 6-1-1 (5)

Address	Adjustment Data	
	Initial Value	Memo Column
DC	CC	←
DD	8A	←
DE	C3	←
DF	28	←
E0	80	
E1	80	
E2	00	←
E3	FF	←
E4	7F	←
E5	10	←
E6	00	←
E7	FF	←
E8	7F	←
E9	10	←
EA	00	←
EB	04	←
EC	00	←
ED	08	←
EE	00	←
EF	08	←
F0	80	←
F1	40	←
F2	40	←
F3	80	←
F4	25	←
F5	79	←
F6	80	←
F7	25	←
F8	79	←
F9	06	←
FA	00	
FB	00	
FC	00	←
FD	F0	←
FE	FF	←
FF	FF	←

Table. 6-1-1 (6)

1-1-6. Page E address list

Note 1 : The initial value of the adjustment data is the data immediately after execution of Pages E and F data initialization, and Page E data modification. They are different from the value after all adjustments are executed.

Note 2 : When the arrow mark ← is shown in the memo column of the adjustment data, it indicates that the data of that address is the fixed data (fixed to the initial value).

Address	Adjustment Data	
	Initial Value	Memo Column
00		
01	0B	←
02	0B	←
03	03	←
04	03	←
05	D5	
06	EC	
07	20	
08	20	
09	28	←
0A	25	←
0B	00	←
0C	30	←
0D	0F	←
0E	00	←
0F	18	←
10	02	←
11	09 : NTSC, 2D : PAL	←
12	00	←
13	00	←
14	00	←
15	00	←
16	00	←
17	00	←

Table. 6-1-2 (1)

Address	Adjustment Data	
	Initial Value	Memo Column
18	00	←
19	00	←
1A	00	←
1B	00	←
1C	00	←
1D	00	←
1E	00	←
1F	00	←
20	00	←
21	00	←
22	00	←
23	00	←
24	00	←
25	00	←
26	00	←
27	00	←
28	00	←
29	00	←
2A	00	←
2B	00	←
2C	00	←
2D	00	←
2E	00	←
2F	00	←

Table. 6-1-2 (2)

1-2. CAMERA SYSTEM ADJUSTMENTS

1-2-1. Adjustment points when major parts have been replaced

When the CCD imager or lens block is replaced, adjust the items indicated by ○ in the following table.

	When the CCD imager is replaced	When the lens block is replaced
HALL adjustment		○
Flange back adjustment	○	○
IRIS IN/OUT adjustment	○	○
MAX GAIN adjustment	○	
Color reproduction adjustment	○	
Auto white balance reference data input	○	
Auto white balance adjustment	○	

1-2-2. Power supply voltage check (DD-75 board)

Mode	Camera recording
Subject	Any subject
Measuring Equipment	Digital voltmeter
CAM 3.3 V check	
Measurement Point	CN002 pin ⑳, ㉑ (CL017)
Specification Value	3.20 ± 0.12 Vdc
CAM D5.0 V check	
Measurement Point	CN002 pin ㉕, ㉖ (CL019)
Specification Value	4.90 ± 0.15 Vdc
CAM 5.0 V check	
Measurement Point	CN002 pin ㉗ to ㉙ (CL020)
Specification Value	4.90 ± 0.15 Vdc

Mode	Camera recording
Subject	Any subject
Measuring Equipment	Digital voltmeter
CCD –8.5 V check	
Measurement Point	CN002 pin ㉜ (CL021)
Specification Value	–8.50 ± 0.50 Vdc
CCD 15 V check	
Measurement Point	CN002 pin ㉝, ㉞ (CL022)
Specification Value	15.00 ± 0.50 Vdc
VAP 5.0 V check	
Measurement Point	CN002 pin ㊲ (CL024)
Specification Value	5.00 ± 0.15 Vdc
CAM MT 5.0 V check	
Measurement Point	CN002 pin ㊳ (CL025)
Specification Value	5.00 ± 0.15 Vdc

DD-75 board (Side A)

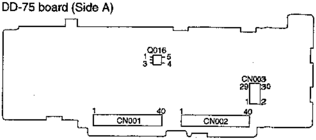


Fig. 6-1-7

1-2-3. Initialization of Pages E and F data

Note 1 : Execute the initialization of pages E and F only when the non-volatile memory (CB-54 board IC007 EE PROM) is replaced.

Note 2 : If the pages E and F data has been initialized, all adjustment items of the camera section must be executed again.

Initializing procedure:

Order	Page	Address	Data	Procedure
1				Turn OFF and ON the main power supply. (Preparation)
2	6	00	01	After setting the data, press the PAUSE button.
3	6	01	2D:NTSC 2F:PAL	After setting the data, press the PAUSE button. (Execution of pages E and F data initialization. Data of the pages E and F address are initialized.)
4	6	11		Confirm that the data is 01.
5	6	11	00	After setting the data, press the PAUSE button.

Works required after initialization

Order	Page	Address	Data	Procedure
1	6	01	00	After setting the data, Press the PAUSE button. (End)
2				Perform the next item "5. Pages E and F Data Modifications", then execute all adjustment items of the camera section.

1-2-4. Modification of Page F data

If the E and F page data has been initialized, change the data as shown in the following table by manual input.

Note 1 : Before changing the data, set data : 01 to page : 6, address: 00.

Note 2 : To write in the non-volatile memory (EEPROM) after changing the data, press the PAUSE button of the adjusting remote commander each time to set the new data.

Note 3 : After changing the data, set data : 00 to page : 6, address : 00. Also perform Camera System Adjustments , Servo System Adjustments, Video System Adjustments, and Audio System Adjustments.

Address	Data	Address	Data
00	BC	6F	82:NTSC, 83:PAL
01	0C:NTSC, 05:PAL	71	00:NTSC, 02:PAL
1F	22:NTSC, 00:PAL	79	30:NTSC, 28:PAL
20	05:NTSC, 00:PAL	7A	20:NTSC, 1B:PAL
66	20:NTSC, 21:PAL	85	20:NTSC, 21:PAL
68	0C:NTSC, 10:PAL	87	0C:NTSC, 10:PAL
69	73:NTSC, 87:PAL	88	17:NTSC, 1B:PAL

Table. 6-1-3

Note 4 : After the above described modification is completed, turn OFF the main power once then back ON.

1-2-5. Modification of Page E data

If the E and F page data has been initialized, change the data as shown in the following table by manual input.

Note 1 : Before changing the data, set data : 01 to page : 6, address : 00.

Note 2 : To write in the non-volatile memory (EEPROM) after changing the data, press the PAUSE button of the adjusting remote commander each time to set the new data.

Note 3 : After changing the data, set data : 00 to page : 6, address : 00. Also perform Camera System Adjustments, Servo System Adjustments, Video System adjustments, and Audio System Adjustments.

Address	Data
11	09:NTSC, 2D:PAL

Table. 6-1-4

Note 4 : After the above described modification is completed, turn OFF the main power once then back ON.

1-2-6. 28MHz crystal oscillator adjustment (CB-54 board)

Purpose : Adjusts 28MHz crystal controlled oscillation for synchronizing clock.

Adjustment error : Loss of synchronization or loss of color.

Subject	Not required
Measurement Point	IC010 pin ㉒ or IC006 pin ⑩
Measuring Instrument	Frequency counter
Adjustment	CT001
Adjustment	
Specification	14318181 ± 43Hz (NTSC model) 14187500 ± 43Hz (PAL model)

Adjustment procedure:

Order	Procedure
1	Adjust CT001 until the oscillation frequency satisfies the specification value.

CB-54 board (Side A)

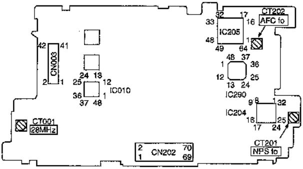

CT202
AFC fo
32
17
33
16
IC205
48
1
49
64
48
37
1
36
12
25
13
24
IC290
42
41
CN003
2
1
24
13
25
12
IC010
36
1
37
48
9
8
1
32
IC204
16
25
17
24
CT001
28MHz
2
1
CN202
70
69
CT201
NPS fo

Fig. 6-1-8

1-2-7. Zoom center value preset

Perform this adjustment when ZK4520 board, or IC501 (mode control) on the JC-15 board, or IC007 (EEPROM) on the CB-54 board is replaced.

Purpose: Optimize the response of the zoom speed

Subject	Not required
Adjustment Page	D
Adjustment Address	39

Note : Fix the lens zoom switch position at a certain subject even though the subject can be any subject.

Adjustment procedure:

Order	Page	Address	Data	Procedure
1	1	00	01	Set the data. (Preparation)
2	2	24		Take reading the data of this address on this page. Take this data as D_{24}.
3	D	39		Set the data D_{24} to this address and press the PAUSE button.
4	1	00	00	Set the data. (End)

1-2-8. V SUB adjustment

Purpose : Set the V SUB voltage of the CCD imager to the voltage which has been uniquely specified for each imager.

Subject	Not required
Adjustment Page	F
Adjustment Address	03, 04, 05

Adjustment method:

Order	Page	Address	Data	Procedure
1	6	00	01	Set the data. (Preparation)
2	F	03		Reading a voltage code of V SUB indicated by R ch CCD imager then input data of a table (Fig.6-1-9).
3				Press the PAUSE button.
4	F	04		Reading a voltage code of V SUB indicated by G ch CCD imager then input data of a table (Fig.6-1-9).
5				Press the PAUSE button.
6	F	05		Reading a voltage code of V SUB indicated by B ch CCD imager then input data of a table (Fig.6-1-9).
7				Press the PAUSE button.
8	6	00	00	Set the data. (End)

Related Adjustment

"1-2-15. Auto white balance reference data input", "1-2-17. MAX gain adjustment ", "1-2-19. Auto white balance adjustment", "1-2-20. Color reproduction adjustment (ND filter OFF)", "1-2-21. Color reproduction adjustment (ND filter ON)".

V SUB			
Voltage code	Data	Voltage code	Data
E	71	Q	AD
F	77	R	B3
G	7D	S	B9
H	83	T	BF
J	89	U	C4
K	8F	V	CA
L	95	W	D0
M	9B	X	D6
N	A1	Y	DC
P	A7	Z	E2

Table. 6-1-5

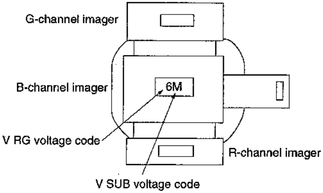


Fig. 6-1-9

Example : When the display is "6M",
Because the V SUB voltage code is "M", the V SUB data becomes "9B".
Because the V RG voltage code is "6", the V RG data becomes "B2". (See Table. 6-1-6)

1-2-9. VRG adjustment

Purpose : Set the V RG voltage of the CCD imager to the voltage which has been uniquely specified for each imager.

Subject	Not required
Adjustment Page	F
Adjustment Address	06, 07, 08

Adjustment Method:

Order	Page	Address	Data	Procedure
1	6	00	01	Set the data. (Preparation)
2	F	06		Reading a voltage code of V SUB indicated by R ch CCD imager then input data of a table (Fig.6-1-9).
3				Press the PAUSE button.
4	F	07		Reading a voltage code of V SUB indicated by G ch CCD imager then input data of a table (Fig.6-1-9).
5				Press the PAUSE button.
6	F	08		Reading a voltage code of V SUB indicated by B ch CCD imager then input data of a table (Fig.6-1-9).
7				Press the PAUSE button.
8	6	00	00	Set the data. (End)

V RG	
Voltage code	Data
1	2F
2	47
3	62
4	7C
5	96
6	B2
7	CD

Table. 6-1-6

1-2-10. HALL adjustment

Purpose : Variation of the HALL element outputs is removed by adjusting amplifier gain and offset. The HALL elements detect the lens iris position.

Adjustment error : Oscillation of lens iris, or incorrect white balance indoor and outdoor.

Subject	Not required
Measurement Point	DDS display on the EVF or monitor
Measuring Instrument	TV, or the page A data display on the adjustment remote commander.
Adjustment Page	F
Adjustment Address	0C 0B
Specification	13 to 15h when iris is opened. (Note 1) 77 to 79h when iris is closed. (Note 2)

Note 1 : Set data : 01 to page : 6, address : 01, and press the PAUSE button of the adjusting remote commander.

Note 2 : Set data : 03 to page : 6, address : 01, and press the PAUSE button of the adjusting remote commander.

Adjustment procedure:

Order	Page	Address	Data	Procedure
1	1	00	01	Set the data. (Preparation 1)
2	D	03	21	After setting the data, press the PAUSE button.
3	6	00	01	Set the data. (Preparation 2)
4	6	02	03	After setting the data, press the PAUSE button.
5	6	01	03	After setting the data, press the PAUSE button.
6	F	0C	40	After setting the data, press the PAUSE button. Read the data appearing on the DDS display (Note 3). The read-out data is W_2.
7	F	0C	30	After setting the data, press the PAUSE button. Read the data appearing on the DDS display (Note 3). The read-out data is W_1.
8	6	01	01	After setting the data, press the PAUSE button.
9	F	0C	30	After setting the data, press the PAUSE button. Read the data appearing on the DDS display (Note 3). The read-out data is K_1.
10	F	0C	40	After setting the data, press the PAUSE button. Read the data appearing on the DDS display (Note 3). The read-out data is K_2.
11				Convert the data W_1, W_2, K_1 and K_2 into the decimal numbers. The result decimal numbers are W_1', W_2', K_1' and K_2'. (Use page 6-37 (How to convert the hexadecimal number to decimal number or "Hexadecimal-Decimal Conversion Table".)
12				$A' = W_2' + K_1' - W_1' - K_2'$ .... equation 1 $B' = W_1' - K_1'$ .... equation 2 $X_1' = \frac{1600 + (48 \times A') - (16 \times B')}{A'}$ .... equation 3
13				Convert the decimal number X_1' to the hexadecimal number to obtain X_1. (Round the number X_1 to count fractions of 0.5 and over as a unit and cut away the rest.)
14	F	0C		Set the data X_1 (obtained at step 13).
15				Press the PAUSE button.
16	F	0B		Change the data until 14 appears on the DDS display.
17				Press the PAUSE button.
18	6	01	03	After setting the data, press the PAUSE button.
19				If the DDS display shows the data in the range from 77 to 79, it indicates the end of adjustment, and proceed to the item "Processing after Adjustments". If it is not, use the DDS display data as W_0 and proceed to step 20 and followings.

Note 3 : Lower two digits of the data which is displayed at the right bottom of he EVF or TV monitor, or the lower 2 digits of the 4-digit display data of page A of the adjustment remote commander.

A : XX : $\underline{XX} \rightarrow W_2$

Order	Page	Address	Data	Procedure
20				Convert the value W_0 to a decimal value to obtain the value W_0'.
21				Calculate the value X_2' from the following equation (decimal calculation). $C' = W_0' - B' - 20$ .... equation 4 $X_2' = \frac{(100-B') \times (X_1'-48) + (48 \times C')}{C'}$ .... equation 5 (The values X_1' and B' are obtained from the equations 2 and 3 in step 12.)
22				Convert the value X_2' to a hexadecimal number to obtain X_2. (Round the number X_2 to count fractions of 0.5 and over as a unit and cut away the rest.)
23	F	0C		Set the data X_2 (which is the result of calculation in step 22).
24				Press the PAUSE button.
25	F	0B		Change data until 78 appears on the DDS display.
26				Press the PAUSE button.
27	6	01	01	After setting the data, press the PAUSE button.
28				Confirm that the DDS display shows the data in the range from 13 to 15.

Processing after Adjustments:

Order	Page	Address	Data	Procedure
1	6	01	00	After setting the data, press the PAUSE button.
2	6	02	00	After setting the data, press the PAUSE button.
3	6	00	00	Set the data (End 2)
4	D	03	00	After setting the data, press the PAUSE button.
5	1	00	00	Set the data (End 1)

Related adjustments:

"1-2-16. IRIS IN/OUT adjustment"

1-2-11. Offset check and adjustment

Purpose : Confirm that the AGC OUT voltage is within the operating range of the digital clamp.

Adjustment error : The color reproduction will become poor.

Subject	
Measurement Point	DDS display on the EVF or monitor TV, or the page A data display on the adjustment remote commander.
Measuring Instrument	
Adjustment Page	F
Adjustment Address	0D
Adjustment Address	50 to B0

Note : Set the STEADY SHOT switch (FK-68 board S404) to OFF and the D ZOOM (MENU display) to OFF.

Adjustment procedure:

Order	Page	Address	Data	Procedure
1	1	00	01	Set the data. (Preparation 1)
2	D	03	21	After setting the data, press the PAUSE button.
3	6	00	01	Set the data. (Preparation 2)
4	6	01	07	After setting the data, press the PAUSE button.
5	6	02	14	After setting the data, press the PAUSE button.
6				Confirm that the DDS displayed data satisfies the specification value. If it does not satisfy the specification value, change the data of page: F, address: 0D. Press the PAUSE button after setting the data.
7	6	02	15	After setting the data, press the PAUSE button.
8				Confirm that the DDS displayed data satisfies the specification value. If it does not satisfy the specification value, change the data of page: F, address: 0D. Press the PAUSE button after setting the data.
9	6	02	16	After setting the data, press the PAUSE button.
10				Confirm that the DDS displayed data satisfies the specification value. If it does not satisfy the specification value, change the data of page: F, address: 0D. Press the PAUSE button after setting the data.
11	6	01	05	After setting the data, press the PAUSE button.
12	6	02	14	After setting the data, press the PAUSE button.
13				Confirm that the DDS displayed data satisfies the specification value. If it does not satisfy the specification value, change the data of page: F, address: 0D. Press the PAUSE button after setting the data.
14	6	02	15	After setting the data, press the PAUSE button.
15				Confirm that the DDS displayed data satisfies the specification value. If it does not satisfy the specification value, change the data of page: F, address: 0D. Press the PAUSE button after setting the data.
16	6	02	16	After setting the data, press the PAUSE button.
17				Confirm that the DDS displayed data satisfies the specification value. If it does not satisfy the specification value, change the data of page: F, address: 0D. Press the PAUSE button after setting the data.
18				Repeat the adjustment steps from 4 to 17 until the specification value is satisfied at each step of 6, 8, 10, 13, 15 and 17.

Processing after Adjustments:

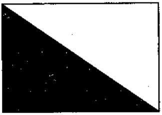
Order	Page	Address	Data	Procedure
1	6	01	00	After setting the data, press the PAUSE button.
2	6	02	00	After setting the data, press the PAUSE button.
3	6	00	00	Set the data. (End 2)
4	D	03	00	After setting the data, press the PAUSE button.
5	1	00	00	Set the data. (End 1)

1-2-12. Flange back adjustment and temperature data reading

Purpose : Automatic flange back adjustment of inner focus lens.

Adjustment error : Loss of focus when switched between auto focus and manual focus.

Subject	Chart for flange back adjustment (Placed 1982mm in front of the lens with illumination of 300 ± 50 lux.)
Measurement Point Measuring Instrument	Confirm the focus on monitor TV
Adjustment Page	F
Adjustment Address	A7, A8, A9, AA, AB, AC, FA



(Chart for flange back adjustment)
(See page 6-6)
Fig.6-1-10.

Note 1 : Set the STEADY SHOT switch (FK-68 board S404) to OFF and the D ZOOM (MENU display) to OFF.

Note 2 : Perform the "temperature data reading" immediately after completion of flange back adjustment without elapse of time.

Adjustment procedure:

Order	Page	Address	Data	Procedure
1				Check that the center of the flange back adjustment chart coincides with that of the display on the monitor at both ends : TELE end and the WIDE end of the zoom lens.
2	6	00	01	Set the data. (Preparation)
3	F	A7 A8 A9 AA AB AC	07 5A 18 A1 13 C8	Confirm data of each address.
4	F	AF		Confirm that the data is 0F. If the data is not 0F, set data 0F and press the PAUSE button.
5	6	21		Confirm that the data is 00.
6	6	01	13	After setting the data, press the PAUSE button.
7	6	01	15	After setting the data, press the PAUSE button. The adjustment data is automatically input to page : F, addresses : A7 to AC.
8	6	21		Confirm that the data is 01.
9	6	21	00	After setting the data, press the PAUSE button.
10	6	11		Confirm that the data is 00.
11	F	FA		Confirm that the data is 00. If the data is not 00, set data 00 and press the PAUSE button.
12	6	01	35	After setting the data, press the PAUSE button. The adjustment data is automatically input to page : F, addresses : FA.
13	6	11		Confirm that the data is 01.
14	6	11	00	After setting the data, press the PAUSE button.

Processing after Adjustments:

Order	Page	Address	Data	Procedure
1	6	00	00	Set the data.
2				Turn the main power supply (7.2 V) OFF, then ON. (If this step is not performed, the camera will be out of focus.)

1-2-13. Flange back check

Subject	Siemens star (Placed 2000mm in front of the lens with illumination of about 300 ± 50 lux.)
Measurement Point	Confirm focus on monitor TV
Measuring Instrument	
Specification Value	Picture must have good focus at both TELE and WIDE ends.

Note : Set the STEADY SHOT switch (FK-68 board S404) to OFF and the D ZOOM (MENU display) to OFF.

Adjustment procedure:

Order	Procedure
1	Place a Siemens star at 2m in front of lens.
2	Set the AUTO FOCUS to OFF. (FI4520 block)
3	Decrease illumination to the chart down to a point before noise appears on monitor TV, in order to fully open the IRIS.
4	Shoot the Siemens star at TELE end.
5	Set the AUTO FOCUS to ON. (FI4520 block)
6	Confirm that the image is in focus.
7	Set the AUTO FOCUS to OFF.
8	Shoot the Siemens star at WIDE end.
9	Confirm that the image is in focus.

1-2-14. Picture frame setting

Subject	Color bar chart standard picture frame (1.5m from the front of the lens)
Measurement Point	VIDEO output terminal (Terminated in 75Ω)
Measuring Instrument	Oscilloscope and monitor TV
Specification Value	A=B, C=D, t=0 ± 0.1msec

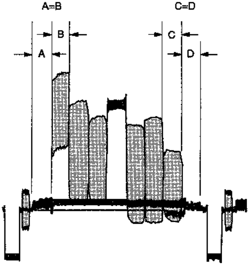
Note : Set the STEADY SHOT switch (FK-68 board S404) to OFF and the D ZOOM (MENU display) to OFF.

Setting procedure:

Order	Procedure
1	Turn OFF the auto focus.
2	Adjust the focus using the focus knob.
3	Adjust direction and ZOOM of camera so that the picture frame is adjusted as specified by Fig. 6-1-11 and Fig. 6-1-12.
4	Write down markings on the picture frame on the monitor screen. If the "color bar chart standard picture frame" or "white pattern standard picture frame" is specified in the following adjustment items, obtain this picture frame.

Confirm with an oscilloscope

1. Horizontal rate



2. Vertical rate

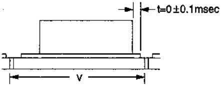


Fig. 6-1-11

Confirm on TV monitor (underscanned display)

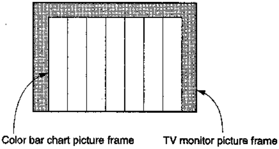


Fig. 6-1-12

1-2-15. Auto white balance reference data input

Purpose : Adjust the reference white balance at 3200K, and calibrate the camera from white balance variations.

Adjustment error : The pre-set white balance will become poor.

Subject	Clear chart (Color bar standard picture frame)
Measurement Point	VIDEO output terminal (Terminated in 75Ω)
Measuring Instrument	Vectorscope
Adjustment Page	F
Adjustment Address	09, 0A
Specification Value	The white spot comes to the center point of vectorscope. (Note 2)

Note 1 : Set the STEADY SHOT switch (FK-68 board S404) to OFF and the D ZOOM (MENU display) to OFF.

Adjustment procedure:

Order	Page	Address	Data	Procedure
1				Turn OFF the main power of the unit then back ON.
2				Shoot a Clear chart with the standard picture frame.
3	6	00	01	Set the data. (Preparation)
4				Set the GAIN control of a vectorscope to maximum.
5	6	01	0F	After setting the data, press the PAUSE button.
6	F	09 0A		Change the data of page : F, address : 09 and the data of address : 0A until the white spot comes to the center point of vectorscope. Press the PAUSE button after each setting of data.

Note 2 : Confirm that the diameter of the white spot is 3mm or less under the specified adjustment conditions. (The burst signal must be reduced the standard amplitude.)

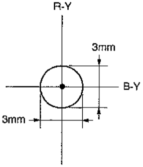


Fig. 6-1-13

Processing after Adjustments:

Order	Page	Address	Data	Procedure
1	6	01	00	After setting the data, press the PAUSE button.
2	6	00	00	Set the data. (End)

1-2-16. IRIS IN/OUT adjustment

Purpose : Measure the light level and write into EE PROM for indoor/outdoor identification in auto white balance.

Adjustment error : Incorrect white balance.

Subject	Clear chart (Color bar standard picture frame)
Measurement Point	DDS display on the EVF or monitor
Measuring Instrument	TV, or the page A data display on the adjustment remote commander.
Adjustment Page	F
Adjustment Address	34, 35

Note 1 : Set the STEADY SHOT switch (FK-68 board S404) to OFF and the D ZOOM (MENU display) to OFF.

Adjustment procedure:

Order	Page	Address	Data	Procedure
1	1	00	01	Set the data. (Preparation 1)
2	D	03	21	After setting the data, press the PAUSE button.
3	6	00	01	Set the data. (Preparation 2)
4	6	15	01	After setting the data, press the PAUSE button.
5	6	02	0E	After setting the data, press the PAUSE button.
6	6	01	0B	After setting the data, press the PAUSE button. Read the data appearing on the DDS display (Note 2), or the display data of page A on the adjustment remote commander (Note 3). The upper 2 digits are D_1 data while the lower 2 digits are D_2.
7				Convert the data D_1 into the decimal numbers. The result decimal number is D_1' (Use page 6-37 (How to convert the hexadecimal number to decimal number "Hexadecimal-Decimal Conversion Table".)
8				Calculate the following equation (decimal number calculation) to obtain D_3'. When $D_2 \geqq D0h$, $D_3' = D_1' - 21$ ………… equation 1. When $D_2 < D0h$, $D_3' = D_1' - 22$ ………… equation 2.
9				Convert the decimal number D_3' to the hexadecimal number to obtain D_3.
10	F	34		Set the data D_3 (obtained at step 9), and press the PAUSE button.
11	6	01	09	After setting the data, press the PAUSE button. Read the data appearing on the DDS display (Note 2), or the display data of page A on the adjustment remote commander (Note 3). The uppers 2 digits are D_4 data while the lower 2 digits are D_5.
12				Convert the data D_4 into the decimal numbers. The result decimal number is D_4' (Use page 6-37 (How to convert the hexadecimal number to decimal number "Hexadecimal-Decimal Conversion Table".)
13				Calculate the following equation (decimal number calculation) to obtain D_6' When $D_5 \geqq F0h$, $D_6' = D_4' - 13$ ………… equation 3. When $D_5 < F0h$, $D_6' = D_4' - 14$ ………… equation 4.
14				Convert the decimal number D_6' to the hexadecimal number to obtain D_6.
15	F	35		Set data D_6 (obtained at step 14), and press the PAUSE button.

Note 2 : The lower 4 digit data shown on the right bottom of EVF or monitor display. If the values in the lower digit change rapidly and cannot read it, record the data on tape once. Play it back in STILL mode and take an average value.

Note 3 : The 4 digit data display on page : A of adjustment remote commander.

A : XX : XX
→ Lower 2 digits
→ Upper 2 digits

Processing after Adjustments:

Order	Page	Address	Data	Procedure
1	6	01	00	After setting the data, press the PAUSE button.
2	6	02	00	After setting the data, press the PAUSE button.
3	6	15	00	After setting the data, press the PAUSE button.
4	6	00	00	Set the data. (End 2)
5	D	03	00	After setting the data, press the PAUSE button.
6	1	00	00	Set the data. (End 1)

1-2-17. MAX GAIN adjustment

Purpose : Sets the minimum illumination level.
Adjustment error : Normal video level cannot be obtained at low illumination (dark).

Subject	Clear chart (Color bar standard picture frame)
Measurement Point	VIDEO output terminal (Terminated in 75Ω)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	75
Specification Value	A =490 ± 20 mV (NTSC model) A =420 ± 20 mV (PAL model)

Note : Set the STEADY SHOT switch (FK-68 board S404) to OFF and the D ZOOM (MENU display) to OFF.

Adjustment procedure:

Order	Page	Address	Data	Procedure
1	6	00	01	Set the data. (Preparation)
2	6	15	01	After setting the data, press the PAUSE button.
3	6	01	19	After setting the data, press the PAUSE button.
4	6	02	01	After setting the data, press the PAUSE button.
5	E	12	50	After setting the data, press the PAUSE button.
6	E	13	4F	After setting the data, press the PAUSE button.
7	F	75		Change the data so that the Y signal level (A) satisfies the specification.
8				Press the PAUSE button.

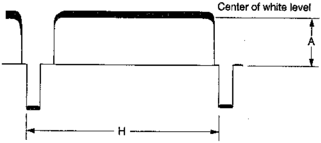


Fig. 6-1-14

Processing after Adjustments:

Order	Page	Address	Data	Procedure
1	6	01	00	After setting the data, press the PAUSE button.
2	6	02	00	After setting the data, press the PAUSE button.
3	6	15	00	After setting the data, press the PAUSE button.
4	E	12	00	After setting the data, press the PAUSE button.
5	E	13	00	After setting the data, press the PAUSE button.
6	6	00	00	Set the data. (End)

1-2-18. White balance adjustment with ND filter correction

Purpose : Adjust the reference white balance when the ND filter is used.

Adjustment error : The white balance when the ND filter is used, will become poor.

Subject	Clear chart (Color bar standard picture frame)
Measurement Point	VIDEO output terminal (Terminated in 75Ω)
Measuring Instrument	Vectorscope
Adjustment Page	F
Adjustment Address	6C, 6D
Specification Value	The white spot comes to the center point of vectorscope. (Note 2)

Note 1 : Set the STEADY SHOT switch (FK-68 board S404) to OFF and the D ZOOM (MENU display) to OFF.

Adjustment procedure:

Order	Page	Address	Data	Procedure
1				Turn the ND filter switch (lens block) to ON.
2	6	00	01	Set the data. (Preparation)
3				Set the GAIN control of vectorscope to the MAX position.
4	6	01	0F	After setting the data, press the PAUSE button.
5	F	6C 6D		Change the data of page : F, address : 6C and the data of address : 6D until the white spot comes to the center point of vectorscope. Press the PAUSE button after each setting of data.

Note 2 : Confirm that the diameter of the white spot is 3 mm or less under the specified adjustment conditions. (The burst signal must be reduced the standard amplitude.)

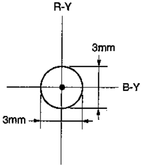


Fig. 6-1-15

Processing after Adjustments:

Order	Page	Address	Data	Procedure
1				Turn the ND filter switch (Lens block) to OFF.
2	6	01	00	After setting the data, press the PAUSE button.
3	6	00	00	Set the data. (End)

1-2-19. Auto white balance adjustment

Purpose : Adjust the outdoor auto white balance output data for the correct value.

Adjustment error : Poor white balance at outdoor.

Subject	Clear chart (Color bar standard picture frame)
Filter	Color temperature correction filter C14
Measurement Point	EVF or DDS display on monitor TV
Measuring Instrument	
Adjustment Page	F
Adjustment Address	30 31
Specification Value	R ratio = 2940h to 29C0h B ratio = 6040h to 60C0h

Note : Make this adjustment after "Auto white balance reference data input" is completed.

Adjustment procedure:

Order	Page	Address	Data	Procedure
1				Put on the color temperature correction filter C14 on the lens.
2	1	00	01	Set the data. (Preparation 1)
3	D	03	21	After setting the data, press the PAUSE button.
4	6	00	01	After setting the data, press the PAUSE button. (Preparation 2)
5	F	5B	D0	After setting the data, press the PAUSE button.
6	6	02	04	After setting the data, press the PAUSE button.
7	F	30		Change data until the R ratio data on the DDS display becomes the specification value.
8				Press the PAUSE button.
9	6	02	05	Set the data.
10	F	31		Change data until the B ratio data on the DDS display becomes the specification value.
11				Press the PAUSE button.

Processing after Adjustments:

Order	Page	Address	Data	Procedure
1	F	5B	E0	After setting the data, press the PAUSE button.
2	6	01	00	After setting the data, press the PAUSE button.
3	6	02	00	After setting the data, press the PAUSE button.
4	6	00	00	Set the data. (End 2)
5	D	03	00	After setting the data, press the PAUSE button.
6	1	00	00	Set the data. (End 1)

1-2-20. Color reproduction adjustment (ND filter OFF)

Purpose : Adjust the three primary color matrix coefficients for correct color reproduction.

Adjustment error : Poor color reproduction.

Subject	Color bar chart standard picture frame
Measurement Point	VIDEO output terminal (Terminated in 75Ω)
Measuring Instrument	Vectorscope
Adjustment Page	F
Adjustment Address	17, 18, 19, 1A
Specification Value	Each spot must be located within the specified color reproduction zone on a vectorscope display.

Note 1 : Set the STEADY SHOT switch (FK-68 board S404) to OFF and the D ZOOM (MENU display) to OFF.

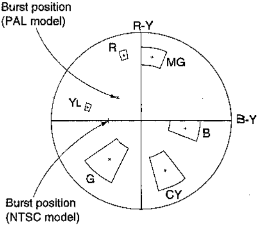


Fig. 6-1-16

Adjustment procedure:

Order	Page	Address	Data	Procedure
1	6	00	01	Set the data. (Preparation)
2	6	03	00	After setting the data, press the PAUSE button.
3	6	01	0F	After setting the data, press the PAUSE button.
4				Calibrate the GAIN and PHASE controls of vectorscope until the burst spot comes to the specified position of burst on the color reproduction chart.
5	F	17 18 19 1A		Change the data of page : F, address : 17 to 1A so that the red and yellow spots of the color bar chart are located within the specified color reproduction zone on a vectorscope display. (Note 2)
6				Confirm that the magenta, green, blue and cyan spots of the color bar chart are located within the specified color reproduction zone on a vectorscope display. Confirm that the data of page : F, address : 19 and the data of address : 1A are 7F or less.

Note 2 : Press the PAUSE button after each setting of data.
If the PAUSE button is not pressed, new data is not stored in the memory.

Processing after Adjustments:

Order	Page	Address	Data	Procedure
1	6	01	00	After setting the data, press the PAUSE button.
2	6	03	10	After setting the data, press the PAUSE button.
3	6	00	00	Set the data. (End)

Related Adjustments:

"1-2-15. Auto white balance reference data input"
"1-2-19. Auto white balance adjustment"

1-2-21. Color reproduction adjustment (ND filter ON)

Purpose : Adjust the three primary color matrix coefficients for correct color reproduction.

Adjustment error : Poor color reproduction.

Subject	Color bar chart standard picture frame
Measurement Point	VIDEO output terminal (Terminated in 75Ω)
Measuring Instrument	Vectorscope
Adjustment Page	E
Adjustment Address	05, 06, 07, 08
Specification Value	Each spot must be located within the specified color reproduction zone on a vectorscope display.

Note 1 : Set the STEADY SHOT switch (FK-68 board S404) to OFF and the D ZOOM (MENU display) to OFF.

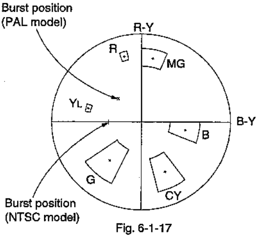


Fig. 6-1-17

Adjustment procedure:

Order	Page	Address	Data	Procedure
1				Turn the ND filter switch (Lens block) to ON.
2	6	00	01	Set the data. (Preparation)
3	6	03	00	After setting the data, press the PAUSE button.
4	6	01	0F	After setting the data, press the PAUSE button.
5				Calibrate the GAIN and PHASE controls of vectorscope until the burst spot comes to the specified position of burst on the color reproduction chart.
6	E	05 06 07 08		Change the data of page : E, address : 05 to 08 so that the red and yellow spots of the color bar chart are located within the specified color reproduction zone on a vectorscope display. (Note 2)
7				Confirm that the magenta, green, blue and cyan spots of the color bar chart are located within the specified color reproduction zone on a vectorscope display. Confirm that the data of page : F, address : 07 and the data of address : 08 are 7F or less.

Note 2 : Press the PAUSE button after each setting of data. If the PAUSE button is not pressed, new data is not stored in the memory.

Processing after Adjustments:

Order	Page	Address	Data	Procedure
1				Turn the ND filter switch (Lens block) to OFF.
2	6	01	00	After setting the data, press the PAUSE button.
3	6	03	10	After setting the data, press the PAUSE button.
4	6	00	00	Set the data. (End)

Related Adjustments:

"1-2-15. Auto white balance reference data input"

"1-2-19. Auto white balance adjustment"

1-2-22. Velocity sensor sensitivity adjustment

The "Velocity Sensor Sensitivity Adjustment" is necessary only when the gyro sensor is replaced. If microprocessors or circuit board is not replaced, this adjustment is not necessary. Make operation check only.

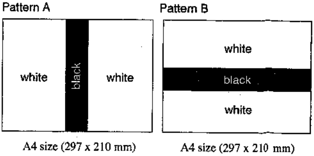
Subject	Pattern A and Pattern B (Fig. 6-1-18)
Measurement point	VIDEO output terminal (Terminated in 75Ω)
Measuring equipment	Oscilloscope or TV monitor
Adjustment page	F
Adjustment address	E1, E0
Specified value	Shoot an arbitrary object at TELE end, and confirm that the STEADY SHOT function works correctly.

Switch setting

1) STEADY SHOT (FK-68 board S404) .... ON
2) D ZOOM (MENU display) .... OFF

Note 1 : Record the sensitivity data which is indicated on the replacement gyro sensor before installing it. Record not only the sensitivity data but also where (horizontal correction must be installed to the horizontal correction circuit and the vertical correction sensor must be installed to the vertical correction circuit) the replacement sensor is attached. If different type of sensor is used, picture can vibrate vertically or horizontally during camera-shake correction. After replacement, make adjustment as described below.

Note 2 : Caution on gyro sensor
The gyro sensor has the high precision vibrator inside. If the sensor is dropped, balance of the vibrator is lost resulting in faulty operation. Handle the sensor carefully.


Pattern A
white
black
white
Pattern B
white
black
white

A4 size (297 x 210 mm)   A4 size (297 x 210 mm)

Fig. 6-1-18

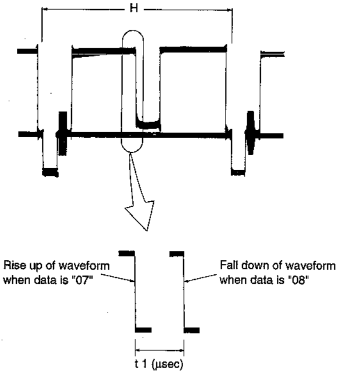

H
Rise up of waveform when data is "07"
Fall down of waveform when data is "08"
t 1 (μsec)

Fig. 6-1-19

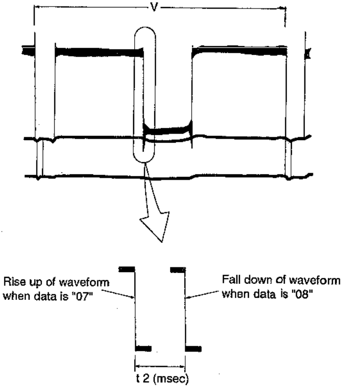

V
Rise up of waveform when data is "07"
Fall down of waveform when data is "08"
t 2 (msec)

Fig. 6-1-20

Adjustment procedure:

Order	Page	Address	Data	Procedure
1				Shoot the pattern A using TELE end of the zoom. (Place the pattern at the distance of 1.5 m to 2 m far.)
2				Adjust the camera position so that the vertical black stripe comes to the center of display.
3	6	00	01	Set the data. (Preparation)
4	F	EF		Read the data of page : F, address : EF, and record it. Take this data as D_{EF}.
5				Align the fall down of waveform with the vertical scale of an oscilloscope. (Select horizontal rate display of an oscilloscope.)
6	F	EF		Set the data (D_{EF}-1) to page : F, address EF, and press the PAUSE button. At this time, measure the amount of movement t1 (µsec) of the fall down of the waveform. (Fig. 6-1-19) Calculate the following equation (decimal calculation) to obtain the D_{EI}'. $D_{EI}' = \frac{3.94}{t\,1} \times \frac{1.00}{\text{SE801 sensor sensitivity value}} \times 101$ Note : The sensor sensitivity of SE801 on the SE-56 board is indicated only on the surface of the replacement sensor part. Round the number D_{EI}' to count fractions of 0.5 and over a unit and cut away the rest. Then convert the D_{EI}' value into the hexadecimal number. (Note 3) The result hexadecimal number is D_{EI}.
7	F	E1		Set the data D_{EI} to this address and press the PAUSE button.
8	F	EF		Set the data D_{EF} which is recorded in step 4 to this address and press the PAUSE button.
9				Shoot the pattern B using TELE end of the zoom.
10				Adjust the camera position so that the vertical black stripe comes to the center of display.
11	F	ED		Read the data of page : F, address : ED, and record it. Take this data as D_{ED}.
12				Align the fall down of waveform with the vertical scale of an oscilloscope. (Select vertical rate display of an oscilloscope.)
13				Set the data (D_{ED}-1) to page : F, address : ED, and press the PAUSE button. At this time, measure the amount of movement t2 (msec) of the fall down of the waveform. (Fig. 6-1-20) Calculate the following equation (decimal calculation) to obtain the D_{E0}' $D_{E0}' = \frac{1.53}{t\,2} \times \frac{0.96}{\text{SE802 sensor sensitivity value}} \times 103$ Note : The sensor sensitivity of SE802 on the SE-56 board is indicated only on the surface of the replacement sensor part. Round the number D_{E0}' to count fractions of 0.5 and over a unit and cut away the rest. Then convert the D_{E0I}' value into the hexadecimal number. (Note 3) The result hexadecimal number is D_{E0}.
14	F	E0		Set the data D_{E0} to this address and press the PAUSE button.
15	F	ED		Set the data D_{ED} which is recorded in step 11 to this address and press the PAUSE button.

Note 3 : Refer to page 6-37 (How to convert the hexadecimal number to decimal number) "Hexadecimal-Decimal Conversion Table".

Processing after Adjustments:

Order	Page	Address	Data	Procedure
1	6	00	00	Set the data. (End)
2				Shoot an arbitrary object at TELE end, and confirm that the Steady Shot function works correctly.

1-3. W/B ELECTRONIC VIEWFINDER SYSTEM ADJUSTMENTS

Note : About 4000Vdc is applied to CRT anode and about 200Vdc to the grid. Be careful not to touch them. If hand touches them, there is danger of electric shock.

Preparation :
1. Disconnect a flexible board from J701 on VF-105 board.
2. Connect equipments as follows.

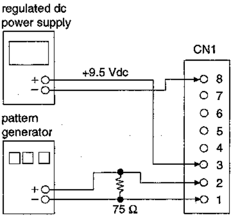


Fig. 6-1-21

Pin No.	Signal Name	Pin No.	Signal Name
1	GND	5	TALLY
2	VF OUT	6	WIDE
3	EVF 9.5V	7	GND
4	N.C.	8	GND

Required signal
1. Monoscope amplitude
   Output amplitude : 1.0Vp-p (75Ω terminated)
   Horizontal resolution : 550 TV lines or more
   Vertical resolution : 350 TV lines or more
2. Gray scale signal
   Output amplitude : 1.0Vp-p (75Ω terminated)

[Precaution on the adjustment]
- Be careful, if the H scan size is changed after completion of all adjustments of EVF, the heater voltage is affected and changed.
- If you find that the brightness of a EVF during the **H**. size adjustment is different from the brightness after the brightness adjustment is completed, the anode voltage is changed. If this phenomenon occurs, perform section "1-3-7. Anode voltage adjustment" and later repeatedly.

EVF MAIN board

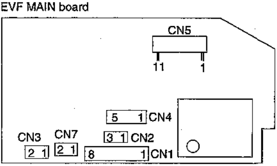


Fig. 6-1-22

1-3-1. Power supply voltage check

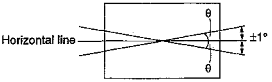
Measuring Instrument	Digital voltmeter
EVF 9.5V	
Measurement Point	CN913 Pin ③ (AU-192 board)
Specification Value	9.50 + 0.10Vdc

1-3-2. Horizontal tilt adjustment

Signal	Monoscope signal
Adjustment	DY
Specification Value	± 1°

Adjustment procedure:

Order	Procedure
1	Loosen the nut fixing the DY (deflection yoke).
2	Push the DY to the CRT neck as far as it can go.
3	While observing the EVF screen, rotate the DY until the picture becomes horizontally level.
4	Tighten the nut fixing the DY. (Fig. 6-1-25) (Do not tighten the nut too strongly.)



Specified value : Image orientation within ±1° of horizontal line.

Fig. 6-1-23

1-3-3. Focus adjustment

Signal	Monoscope signal
Adjustment	DY focus ring
Specification Value	Horizontal resolution is 550 lines or more.

Adjustment procedure:

Order	Procedure
1	Adjust focus ring for optimum focus. Confirm that the horizontal resolution satisfies the specification.

1-3-4. Centering adjustment

Signal	Monoscope signal
Adjustment	DY
Specification Value	± 2.3%

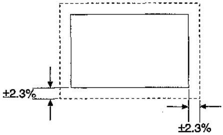
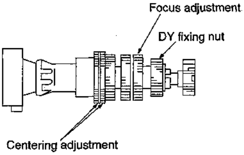


Fig. 6-1-24

Adjustment procedure:

Order	Data procedure
1	Adjust DY centering adjustment ring so that margins at top, bottom, right and left are equal.

Note : The centering position is affected by earth magnetism. Rotate the camera 360 degrees and find the amount of centering change. Make the adjustment to the center of the change.



Note : When adjustment of each magnet is completed, fix the magnets using the Jet-Melt or other locking paint.

Fig. 6-1-25

1-3-5. Free run frequency adjustment

Signal	No signal
Measurement Point	H-HOLD : MAIN board CN2 pin ③ V-HOLD : MAIN board CN3 pin ①
Measuring Instrument	Frequency counter
Adjustment	H-HOLD : RV4 V-HOLD : RV5
Specification Value	H-HOLD : 15.73kHz ± 0.05kHz (NTSC model) 15.63 ± 0.05kHz (PAL model) V-HOLD : 55Hz ± 0.5Hz (NTSC model) 45Hz ± 0.5Hz (PAL model)

Adjustment procedure:

Order	Procedure
1	Adjust RV4 until the free run frequency of H-HOLD satisfies the specification value.
2	Adjust RV5 until the free run frequency of V-HOLD satisfies the specification value.

1-3-6. H size adjustment

Signal	Monoscope signal
Measurement Point	CRT screen (visual measurement)
Adjustment	RV1 (H-SIZE)
Specification Value	110 ± 4%

Adjustment procedure:

Order	Procedure
1	While observing the CRT screen, adjust RV1 until the H size satisfies the specification value.

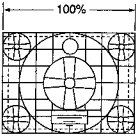


Fig. 6-1-26

1-3-7. Anode voltage adjustment

Signal	Monoscope signal
Measurement Point	Hook terminal of anode lead
Measuring Instrument	High voltage measurement meter
Adjustment	RV2 (FOCUS)
Specification Value	4.05 ± 0.1kV

Adjustment procedure:

Order	Procedure
1	Adjust the anode voltage for the specification value.

1-3-8. H size check

Signal	Monoscope signal
Measurement Point	CRT screen
Adjustment	RV1
Specification Value	110 ± 4%

Adjustment procedure:

Order	Procedure
1	While observing the CRT screen, confirm that the H SIZE satisfies the specification value. If the H SIZE does not satisfy the specification value, perform "1-3-6. H SIZE adjustment" and "1-3-7. Anode voltage adjustment".

1-3-9. Heater voltage adjustment

Signal	No signal
Measurement Point	Voltage between CN4 pin ④ and CN4 pin ③ of the MAIN board.
Measuring Instrument	AC voltmeter (v.m.s)
Adjustment	RV3 (VH-ADJ)
Specification Value	650 ± 30 mVrms

Adjustment procedure:

Order	Procedure
1	Adjust RV3 until the heater voltage (VH) satisfies the specification value.

EVF
MAIN board (Side A)

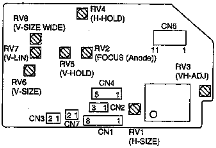


Fig. 6-1-27

1-3-10. V size adjustment

Signal	Monoscope signal
Measurement Point	CRT screen (visual measurement)
Adjustment	RV6 (V-SIZE)
Specification Value	110 ± 4%

Adjustment procedure:

Order	Procedure
1	While observing the CRT screen, adjust RV6 until the vertical size satisfies the specification.

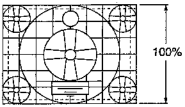


Fig. 6-1-28

1-3-11. V linearity adjustment

Signal	Monoscope signal
Measurement Point	CRT screen (visual measurement)
Adjustment	RV7 (V-LIN)
Specification Value	Round circle of the monoscope signal must show round.

Adjustment procedure:

Order	Procedure
1	While observing the CRT screen, adjust RV7 until the round circle of the monoscope signal shows round.

EVF
MAIN board (Side A)

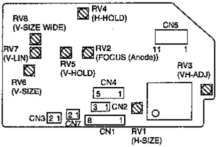


Fig. 6-1-29

1-3-12. Brightness adjustment

Signal	Monoscope signal or Grayscale signal
Measurement Point	CRT screen
Adjustment	RV10 (SUB-CONTRAST) RV12 (SUB-BRIGHT)
Specification Value	Each step of gray scale signal is displayed clearly.

Note 1. Set the CONTRAST (RV11) of the EVF to the mechanical center position.
2. Set the BRIGHT (RV13) of the EVF to the mechanical center position.

Adjustment procedure:

Order	Procedure
1	Adjust RV12 (dark region) and RV10 (bright region) alternately until each step of gray scale signal is clearly display. (For the brighter region, do not increase brightness to such an extent that the cross-hatch at the center of monoscope signal becomes flared. For the dark region, do not decrease brightness to such an extent that the first step (the darkest step) and the third step cannot be identified.)
2	Adjust RV10 if the brightness of the bright (white) and the dark (black) portions do not satisfy the specification.

1-3-13. 16 : 9 V size adjustment

Signal	Monoscope signal
Measurement Point	CRT screen
Adjustment	RV8 (V-SIZE WIDE)
Specification Value	Round of circle of 16 : 9 mode must show round.

Note : Apply +3Vdc to CN1 pin ⑥ (WIDE).
(CN1 pins ⑦⑧ (GND))

Adjustment procedure:

Order	Procedure
1	Adjust RV8 until the round circle of 16 : 9 mode shows round.

EVF
SUB board (Side B)

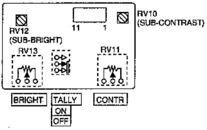


Fig. 6-1-30

Reference : Conversion between the hexadecimal number and decimal number.

In some adjustment items, data appears in hexadecimal numbers on the DDS display or on the adjustment remote commander. Maintenance engineers are expected to convert the displayed hexadecimal numbers to the corresponding decimal numbers using the following conversion table. Make a required calculation described in each adjustment item. Then re-convert the result of calculation back from the decimal numbers to the corresponding hexadecimal numbers using the following conversion table.

Hexadecimal-decimal Conversion Table

Lower digit of hexadecimal / Upper digit of hexadecimal	0	1	2	3	4	5	6	7	8	9	A (A)	B (b)	C (c)	② D (d)	E (E)	F (F)
0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
2	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
3	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
4	64	65	66	67	68	69	70	71	72	73	74	77	76	77	78	79
5	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
6	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111
7	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127
8	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143
9	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159
A (A)	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175
① B (b)	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191
C (c)	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207
D (d)	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223
E (E)	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239
F (F)	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255

Note : The characters shown in the parenthesis ( ) shown the display on the adjustment remote commander.
(Example) If the DDS display or the adjustment remote commander shows BD (bd);
Because the upper digit of the adjustment number is B (b), and the lower digit is D (d), the meeting point "189" of ① and ② in the above table is the corresponding decimal number.

(How to convert the decimal number to hexadecimal number)

The decimal numbers are divided into following three categories. Calculation method is different in three categories respectively.

(1) 0 ~ 255 → 00h ~ FFh
(2) 256 ~ 4095 → 0100h ~ 0FFFh
(3) 4096 ~ 65536 → 1000h ~ FFFFh

If the decimal number fall into the category (1);

1) Divide the decimal number by 16. Result is “A”.
2) Take the integer portion of the number “A” as “B”.
3) Calculate the equation (A–B) ×16. Result is “C”.
4) “B” is the second digit number of the hexadecimal number and “C” is the first digit number of the hexadecimal number. (BC)h

(Example)

If the decimal number is “189”;

1) 189÷16=$\underline{11}$.8125 .... (A)
↑
2) (B)
3) (11.8125–11) ×16=13 .... (C)
4) 189 → (BD)h is obtained.

If the decimal number fall into the category (2);

1) Divide the decimal number by 256. Result is “A”.
2) Take the integer portion of the number “A” as “B”.
3) Calculate the equation (A-B) ×256. Result is “C”.
4) Take the integer portion of the number “C” as “D”.
5) Calculate the equation (C-D) ×16. Result is “E”.
6) “B” is the third digit number, “D” is the second digit number and “E” is the first digit number of the hexadecimal number. (BDE)h

(Example)

If the decimal number is “2100”;

1) 2100÷256=$\underline{8}$.203125 .... (A)
↑
2) (B)
3) (8.203125 – 8) ×256÷16=$\underline{3}$.25 .... (C)
↑
4) (D)
5) (3.25–3) ×16=4 .... (E)
6) 2100 → (834)h is obtained.

If the decimal number fall into the category (3);

1) Divide the decimal number by 4096. Result is “A”.
2) Take the integer portion of the number “A” as “B”.
3) Calculate the equation (A–B) ×4096÷256. Result is “C”.
4) Take the integer portion of the number “C” as “D”.
5) Calculate the equation (C–D) ×256+16. Result is “E”.
6) Take the integer portion of the number “E” as “F”.
7) Calculate the equation (E–F) ×16. Result is “G”. (Round the number “G” to count fractions of 0.5 and over as a unit and cut away the rest.)
8) “B” is the fourth digit number, “D” third digit number, “F” is the second digit number and “G” is the first digit number of the hexadecimal number. (BDFG)h

(Example)

If the decimal number is “31814”;

1) 31814÷4096=$\underline{7}$.7670898 .... (A)
↑
2) (B)
3) (7.7670898–7) ×4096÷256=$\underline{12}$.273436 .... (C)
↑
4) (D)
5) (12.273436–12) ×256÷16=$\underline{4}$.374976 .... (E)
↑
6) (F)
7) (4.374976–4) ×16=5.999616
(Round the number to count fractions of 0.5 and over as a unit and cut away the rest.)
↓
8) 6 .... (G)
9) 31814 → (7C46)h is obtained.

(How to convert the hexadecimal number to decimal number)

If the hexadecimal number is (ABCD)h, the decimal number is calculated by the following equation.

(A×4096) + (B×256) + (C×16) + (D×1)= decimal number

(Example) If the hexadecimal number is “(3BA4)h”:

(3×4096) + (11×256) + (10×16) + (4×1)=15268

6-2. MECHANICAL SECTION ADJUSTMENT

Note : Do not remove the sub chassis (drum base) from the mechanism chassis. Correct tape path will be lost and the tape path adjustment cannot be performed even though the sub chassis (drum base) is re-installed to the mechanism chassis.

2-1. PREPARATION FOR CHECK, ADJUSTMENT AND REPLACEMENT OF MECHANISM

Refer to the "DISASSEMBLY" section of the Service Manuals of each model for the procedures of how to remove cabinets, circuit boards, etc.
Reverse the disassembling steps for the procedures of how to re-assemble the parts again, unless otherwise specified.

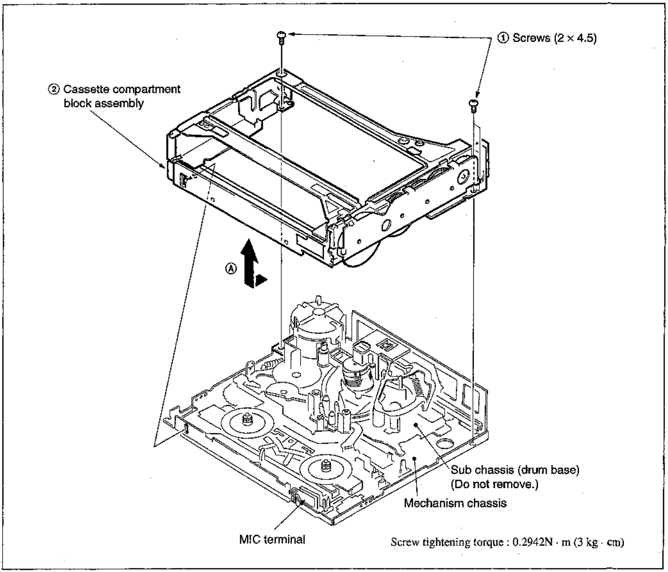
1-1. Cassette compartment block assembly

1. Removal (Refer to Fig. 6-2-1)

1) Remove the three screws (2 × 4.5) ①.
2) Lift up ② cassette compartment block assembly at the drum side a little. Then pull it to the front and remove it in the direction shown by the arrow Ⓐ.

2. Notes on re-assembling

1) Be careful that the ② cassette compartment block assembly should not collide with the MIC terminal.
2) Confirm that the MIC terminal can move up and down after re-assembling.

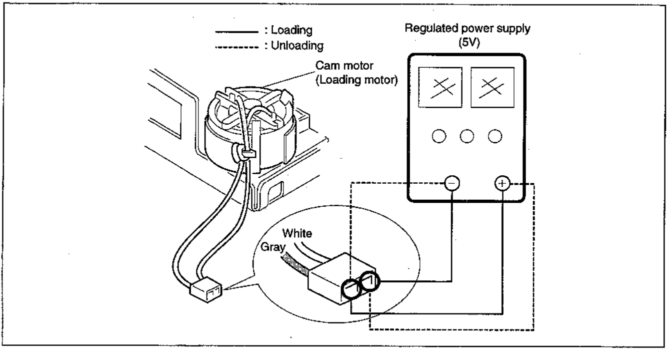

① Screws (2 × 4.5)
② Cassette compartment block assembly
Ⓐ
Sub chassis (drum base) (Do not remove.)
Mechanism chassis
MIC terminal

Screw tightening torque : 0.2942N · m (3 kg · cm)

Fig. 6-2-1

1-2. How to perform loading and unloading while the cassette compartment block assembly is removed.

1. Using a regulated power supply

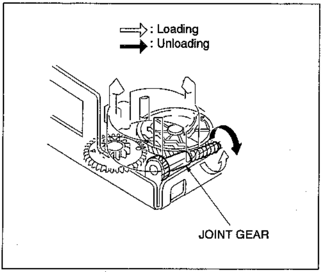


: Loading
: Unloading
Regulated power supply
(5V)
Cam motor
(Loading motor)
White
Gray

Fig. 6-2-2

1) Remove the cable equipped with connector, from CN886 on the RS-73 board.
2) Apply 5Vdc from an external power supply as shown to perform loading or unloading as desired. (Fig. 6-2-2)

2. Manual loading and unloading : After removing the cam motor



: Loading
: Unloading
JOINT GEAR

Fig. 6-2-3

1) Remove the cam motor. (Refer to Fig. 6-2-15 on page 6-56.)
2) Revolve the JOINT GEAR directly by hand to perform loading or unloading.

2-2. PERIODIC INSPECTION AND MAINTENANCE ITEMS

- Perform the following periodic and maintenance items in order to exert the full functions and performance of the machine and to protect the machine and tape. Also, perform the following maintenance whenever a machine is repaired, regardless of the operating hours of user.

2-1. Cleaning of rotary drum

1) Clean the rotary upper drum assembly by contacting the wiping cloth (Ref. No. J-2) soaked with the cleaning liquid (Ref. No. J-1) with the rotary drum assembly and by rotating the rotary upper drum assembly in counter-clockwise direction by hand slowly.

Note : Never rotate the head drum motor by electric power, or never rotate the upper drum assembly by finger. The head tip is broken if the wiping cloth (or cleaning piece) is moved vertically against the head tip. Do not clean the video head by any method other than what is specified as above.

2-2. Cleaning of tape running path (Refer to Fig. 6-2-4.)

1) Enter the EJECT mode. Clean the tape running path (TG-1, TG-2, TG-3, TG-4, TG-5, TG-6, TG-7, pinch roller and capstan), and the lower drum using a very thin cotton swab (Ref. No. J-3) soaked with cleaning liquid.

Note 1 : Be careful that a very thin cotton swab (Ref. No. J-3) must not contact with oil and grease of the link mechanisms.

Note 2 : Do not clean tape guides with alcohol or a cotton swab soaked with alcohol, except pinch roller. The pinch roller is cleaned with alcohol.

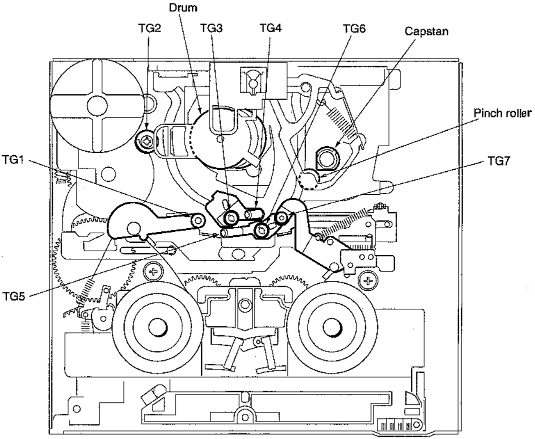


Fig. 6-2-4

2-3. Periodic inspection item

Periodic inspection blocks		Accumulated operating hours (H)										Remarks
		500	1000	1500	2000	2500	3000	3500	4000	4500	5000	
	Cleaning of tape running surface	○	○	○	○	○	○	○	○	○	○	Be careful of staining with oil
	Cleaning and degaussing of rotary drum assembly	○	○	○	○	○	○	○	○	○	○	Be careful of staining with oil
Tape drive system	Timing belt	—	☆	—	☆	—	☆	—	☆	—	☆	3-973-177-01
	Capstan	—	●	—	●	—	●	—	●	—	●	Never stain the tape running surface with oil.
	Gears	—	●	—	●	—	●	—	●	—	●	
	Cam motor assembly	—	☆	—	☆	—	☆	—	☆	—	☆	X-3946-702-1
Performance check	Abnormal sound	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	
	Measurement of tape hold-back tension	—	☆	—	☆	—	☆	—	☆	—	☆	
	Brake system	—	☆	—	☆	—	☆	—	☆	—	☆	
	FWD and RVS torque measurements	—	☆	—	☆	—	☆	—	☆	—	☆	

○ Cleaning ● Coating with grease ☆ Check

Note 1 : When performing overhaul, replace the parts referring to the above listed items.

Note 2 : Oil

- Be sure to use the specified oil. (If viscosity and other characteristics are different, various troubles can arise.)
  Oil : 7-661-018-18
  (Mitsubishi diamond oil hydro fluid NT-68)
- Use oil which is free from dust or other foreign materials, for the oil lubricating bearings. If oil contains any dust or foreign material, bearings will wear out quickly or burn out.

- A drop of oil is the amount of oil which comes with tip of a sticking having diameter of 2mm.

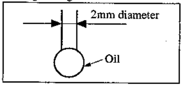


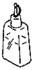
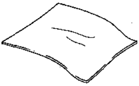
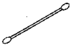
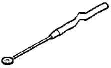
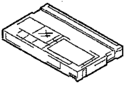
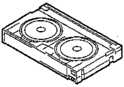
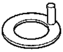
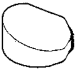
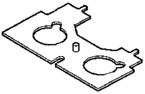
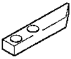
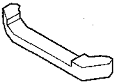
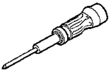
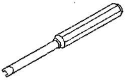
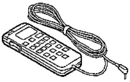
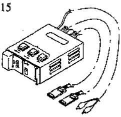
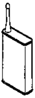
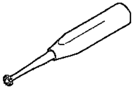
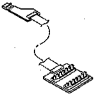
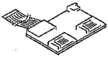
Fig. 6-2-5

2-4. Service jig list

Ref. No.	Name	Sony part code	Jig inscription	Use and others
J-1	Cleaning liquid	9-919-573-01	—	
J-2	Wiping cloth	7-741-900-53	—	
J-3	Very thin cotton swab (made by Japan cotton swab (P752D))	J-2501-023-A	—	
J-4	Small dental mirror (small elliptical mirror)	J-6080-840-A	GD-2038	For tape path adjustment
J-5	Tracking tape (XH2-1ST) Tracking tape (XH2-1SE)	8-967-997-02 8-867-997-03	—	For tape path (top) For tape path (end)
J-6	DV torque cassette	J-6082-374-A	—	
J-7	Reel reference plate	J-6082-380-A	—	For reel height check
J-8	Dummy drum	J-6082-381-A	—	For tape guide adjustment
J-9	Cassette reference plate	J-6082-379-A	—	For tape guide adjustment
J-10	TG2 preset plate (L mechanism)	J-6082-382-A	—	For tape guide adjustment
J-11	TG-3/6 preset plate (L mechanism)	J-6082-383-A	—	For tape guide adjustment
J-12	Torque driver (CCW)	J-9049-330-A	—	
J-13	Tape path driver	J-6082-026-A	—	For tape guide adjustment
J-14	Adjustment remote commander (RM-95 upgraded) * Note	J-6082-053-B	—	
J-15	Mode selector II	J-6082-282-A	—	General adjustments (ROM version 1.40 (J-6082-314-C))
J-16	Neji lock G (1401B) screw locking compound	7-432-114-11	—	
J-17	FWD/BACK TENSION adjustment driver	J-6080-826-A	—	For FWD position and FWD back tension adjustment
J-18	CPC jig-2	J-6082-140-A	—	For tape path
J-19	Mode selector II connect or conversion board	J-6082-378-A	—	General adjustments
J-20	FLOIL grease SG-941	7-662-001-39	—	

Other required equipment
- Regulated power supply
- Oscilloscope
- Digital voltmeter

Note : If the microprocessor IC in the adjustment remote commander is not the new microprocessor (µPD7503G-C56-12) the memory pages cannot be switched. In such a case, replace it with new microprocessor (8-759-148-35).

J-1 	J-2 	J-3 	J-4 
J-5 	J-6 	J-7 	J-8 
J-9 	J-10 	J-11 	J-12 
J-13 	J-14 	J-15 	J-16 
J-17 	J-18 	J-19 	J-20

2-5. How to operate the mode selector Ⅱ

2-5-1. Introduction

The mode selector Ⅱ is an auxiliary tool for mechanism drive maintenance of various mechanism decks. The mode selector Ⅱ has the following functions.

1. Manual test

The motors are driven manually in this mode only during the period while the operation switch is turned on. Operator can control the motors freely in this mode.

2. Step test

The motors are driven from the present status that is detected by the sensors, to a different status. A series of movement from a status to a different status can be checked during the status transition.

3. Auto test

The status transition table has already been stored in the memory of the mode selector Ⅱ. The status transition table indicates the data of mechanism deck in the respective modes. The auto test mode is used to check whether the mechanism performs the normal operation according to the status transition table. A series of movement from a status to another status is checked. If any abnormal status transition is detected, NG message appears and the check operation is stopped.

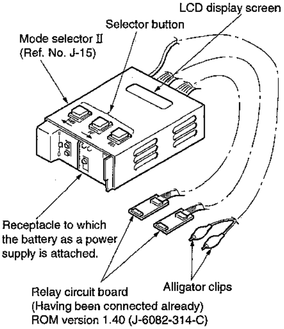

LCD display screen
Selector button
Mode selector Ⅱ
(Ref. No. J-15)
Receptacle to which
the battery as a power
supply is attached.
Relay circuit board
(Having been connected already)
ROM version 1.40 (J-6082-314-C)
Alligator clips

Fig. 6-2-6

Mode selector Ⅱ (J-6082-282-A) connection diagram

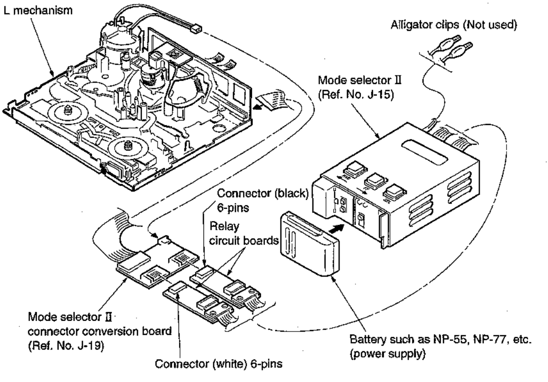
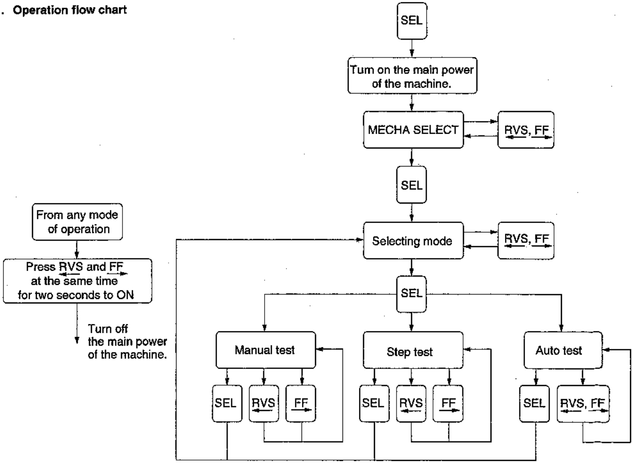

L mechanism
Alligator clips (Not used)
Mode selector Ⅱ
(Ref. No. J-15)
Connector (black)
6-pins
Relay
circuit boards
Mode selector Ⅱ
connector conversion board
(Ref. No. J-19)
Connector (white) 6-pins
Battery such as NP-55, NP-77, etc.
(power supply)

Fig. 6-2-7

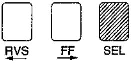
2-5-2. Operation

1. Operation flow chart


SEL
Turn on the main power of the machine.
MECHA SELECT
RVS, FF
SEL
From any mode of operation
Press RVS and FF at the same time for two seconds to ON
Turn off the main power of the machine.
Selecting mode
RVS, FF
SEL
Manual test
Step test
Auto test
SEL
RVS
FF
SEL
RVS
FF
SEL
RVS, FF

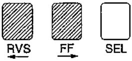
2. Turn on the power of the mode selector II

Turn on the power by pressing the SEL button to ON.



3. Turn off the power of the mode selector II

Turn off the power by pressing the RVS and FF buttons at the same time for two seconds.



4. Selecting mechanism type

Immediately after the power is turned on, the MECHA SELECT menu display appears. Call the types of mechanism by pressing the RVS and FF buttons. When a desired type of mechanism appears, press the SEL button. This is the end of selecting the mechanism type. (Fig. I shows an example of selecting the L mechanism.)

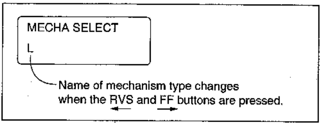

MECHA SELECT
L
Name of mechanism type changes when the RVS and FF buttons are pressed.

Fig. I

5. Selecting mode

Select a type of test mode from "MANUAL", "STEP" or "AUTO". Call a desired type of by pressing RVS and FF buttons, and press the SEL button. This is the end of selecting the test mode. (Fig. II shows an example of selecting the "MANUAL" mode of test.)

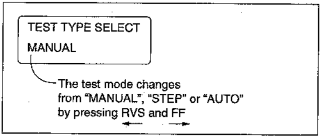

TEST TYPE SELECT
MANUAL
The test mode changes from "MANUAL", "STEP" or "AUTO" by pressing RVS and FF

Fig. II

6. MANUAL test

The motors are driven manually in this mode only during the period while the RVS and FF buttons are pressed. Operator can control the motors freely in this mode.

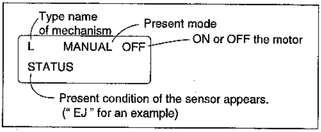

Type name of mechanism
Present mode
ON or OFF the motor
L MANUAL OFF
STATUS
Present condition of the sensor appears. (" EJ " for an example)

Fig. III

7. STEP test

Direction of motor rotation is determined by the RVS and FF buttons. A series of movement only from a status to another status is performed by motor in this test.

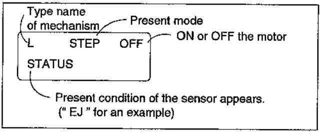

Type name of mechanism
Present mode
ON or OFF the motor
L STEP OFF
STATUS
Present condition of the sensor appears. (" EJ " for an example)

Fig. IV

8. AUTO test

The operation sequence of the respective types of mechanism deck has already been stored in the memory of the mode selector II. The auto test mode is used to check whether the mechanism under test performs the specified operation by verifying the sensors' output signals with the sequence stored in the memory. The same operation is performed by pressing either RVS or FF button.

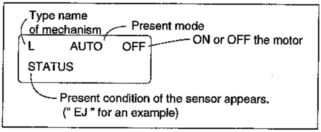

Type name of mechanism
Present mode
ON or OFF the motor
L AUTO OFF
STATUS
Present condition of the sensor appears. (" EJ " for an example)

Fig. V

Transition order of mechanism status (position)

A desired mechanism status (position) can be specified by selecting either MANUAL or STEP test (excluding AUTO) and pressing the RVS or FF button, after selecting type of mechanism. (The mechanism status appears in the STATUS column.)

EJECT ↔ ULE ↔ HI-R ↔ LE ↔ REW ↔
FF ↔ STOP ↔ FWD ↔ RVS

MD name / Code					L machanism
A	B	C	D		
1	0	1	0	1	EJECT
1	1	1	0	2	ULE
1	1	0	0	3	HI-R
1	1	0	1	4	LE
1	0	0	1	5	REW
0	1	0	1	6	FF
0	1	1	1	7	STOP
1	0	1	1	8	FWD
0	0	1	1	9	RVS

9. Battery alarm message

The battery alarm message is an asynchronous message and appears when voltage of a battery which is the power supply of this machine, drops. When this message appears, all operations of the machine become possible, and the battery must be exchanged.

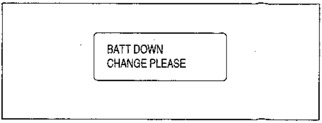

BATT DOWN
CHANGE PLEASE

Fig. VI

2-3. CHECK, ADJUSTMENT AND REPLACEMENT PROCEDURE OF MECHANISM BLOCK

3-1. Timing belt and capstan cover

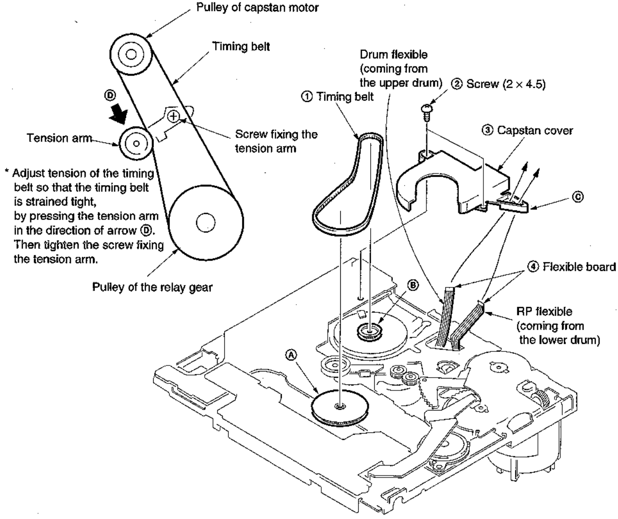
1. Removal

1) Loosen the screw fixing the tension arm, and remove the tension arm.
2) Remove the timing belt ① in the order of Ⓐ and Ⓑ.
3) Remove the two screws (2 × 4.5) ②, and remove the capstan cover ③. When removing the capstan cover, be careful not to give scars on the flexible board ④ of the drum coming from the Ⓒ.

2. Notes when re-assembling

1) When re-assembling, hook the timing belt ① in the order of Ⓑ,Ⓓ then Ⓐ while rotating the relay gear. Be careful also that the timing belt is not twisted or inside out.
2) After the timing belt is attached, perform "Timing belt tension adjustment" as described in the following illustration.

• Timing belt tension adjustment



Pulley of capstan motor
Timing belt
Ⓓ
Tension arm
Screw fixing the tension arm
Pulley of the relay gear
Drum flexible (coming from the upper drum)
② Screw (2 × 4.5)
① Timing belt
③ Capstan cover
Ⓒ
④ Flexible board
Ⓑ
RP flexible (coming from the lower drum)
Ⓐ

* Adjust tension of the timing belt so that the timing belt is strained tight, by pressing the tension arm in the direction of arrow Ⓓ. Then tighten the screw fixing the tension arm.

Screw tightening torque : 0.2942N · m (3kg · cm)

Fig. 6-2-8

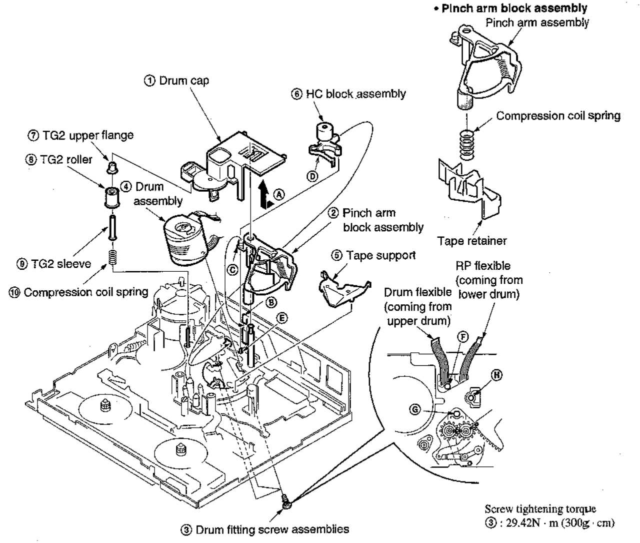
3-2. Drum cap, pinch arm assembly, drum assembly, tape support, HC block assembly and TG2

1. Removal

1) Remove the cassette compartment block assembly referring to section 1-1.
2) Remove the drum cap ① by sliding it in the direction of arrow Ⓐ. Be careful not to touch the tape contacting surface of the drum assembly with bare hand during this removal.
3) Set the machine into the unloaded end (ULE) position.Push the pinch arm block assembly ② into Ⓑ of the claw of the pinch slider, and remove the pinch arm block assembly upwards while escaping the pinch driving roller block Ⓒ. Be careful not to touch the tape contacting surface of the drum assembly and pinch roller with bare hand during this removal.
4) Remove the mold spring block Ⓓ from the HC block assembly ⑥ from the lower drum, and hook the mold spring on the bent portion Ⓔ of the mechanism chassis.
5) While holding the top of the drum assembly ④ with hand, remove the three drum fitting screw assemblies ③ Ⓕ, Ⓖ and Ⓗ, and remove the drum assembly ④ while paying attention not to touch the tape contacting surface with bare hand.
6) Remove the tape support ⑤ and HC block assembly ⑥ from the sub chassis.
7) Remove the TG2 in the order of TG2 upper flange ⑦, TG2 roller ⑧, TG2 sleeve ⑨ and compression coil spring ⑩. Be careful not to touch the tape contacting surface of the TG2 roller with bare hand during this removal.

2. Notes when re-assembling

1) Be careful not to touch the tape contacting surface of the TG2, HC roller, pinch roller and drum assembly with bare hand during this removal.
2) After TG2 is attached, perform "Height adjustment" and "Tape path adjustment" referring to the respective sections of Service Manual.
3) When attaching the drum assembly ④, tighten the three drum fitting screw assemblies ③ Ⓕ, Ⓖ and Ⓗ, in the order of Ⓗ, Ⓖ and Ⓕ. After the drum assembly ④ is attached, perform "Tape path adjustment".


• Pinch arm block assembly
Pinch arm assembly
Compression coil spring
Tape retainer
① Drum cap
⑥ HC block assembly
⑦ TG2 upper flange
⑧ TG2 roller
④ Drum assembly
Ⓐ
Ⓓ
② Pinch arm block assembly
⑤ Tape support
Ⓒ
Ⓑ
Ⓔ
⑨ TG2 sleeve
⑩ Compression coil spring
RP flexible (coming from lower drum)
Drum flexible (coming from upper drum)
Ⓕ
Ⓗ
Ⓖ
③ Drum fitting screw assemblies

Screw tightening torque
③ : 29.42N · m (300g · cm)

Fig. 6-2-9

3-3. Capstan motor, RH base block assembly, pendulum arm assembly and dew condensation sensor

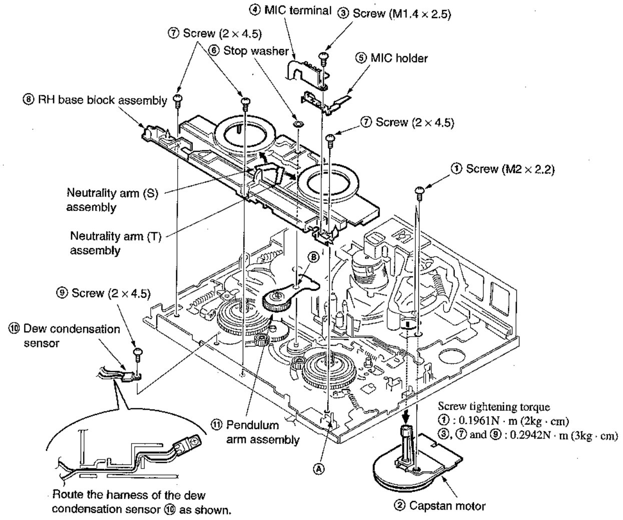
1. Removal

Note : The RH base block assembly, pendulum arm assembly and dew condensation sensor can be removed without removing the capstan motor.

1) Remove the cassette compartment block assembly referring to section 1-1.
2) Remove the timing belt and capstan cover referring to section 3-1.
3) Remove the two screws (M2 × 2.2) ① and remove the capstan motor ②. Be careful not to touch the tape contacting surface of the capstan with bare hand during this removal.
4) Remove the screw (M1.4 × 2.5) ③ and remove the MIC terminal ④ and MIC holder ⑤.
5) Remove the stop washer ⑥ and the three screws (2 × 4.5) ⑦, and remove the RH base block assembly ⑧ while paying attention not to collide with the miss record prevention switch Ⓐ.
6) Remove the screw (2 × 4.5) ⑨ and remove the dew condensation sensor ⑩.
7) Remove the pendulum arm assembly ⑪.

2. Notes when re-assembling

1) After the pendulum arm assembly ⑪ is attached, confirm that the Ⓑ block is coated with grease. If the Ⓑ block is coated with grease, coat it with grease as much as 1/2 grain.
   FLOIL grease SG-941 (7-662-001-39)
2) Attach the RH base block assembly ⑧ the mechanism chassis while separating the neutrality arm (S) and (T) assemblies as shown. At this time, confirm that the pendulum arm assembly ⑪ is located inside the neutrality arm (S) and (T) assemblies.
3) Do not touch the tape contacting surface of the capstan and dew condensation sensor with bare hand.
4) Route the harness of the dew condensation sensor ⑩ as shown in Fig. a.


④ MIC terminal
③ Screw (M1.4 × 2.5)
⑦ Screw (2 × 4.5)
⑥ Stop washer
⑤ MIC holder
⑧ RH base block assembly
⑦ Screw (2 × 4.5)
① Screw (M2 × 2.2)
Neutrality arm (S) assembly
Neutrality arm (T) assembly
Ⓑ
⑨ Screw (2 × 4.5)
⑩ Dew condensation sensor
⑪ Pendulum arm assembly
Ⓐ
② Capstan motor

Screw tightening torque
① : 0.1961N · m (2kg · cm)
③, ⑦ and ⑨ : 0.2942N · m (3kg · cm)

Route the harness of the dew condensation sensor ⑩ as shown.

Fig. a

Fig. 6-2-10

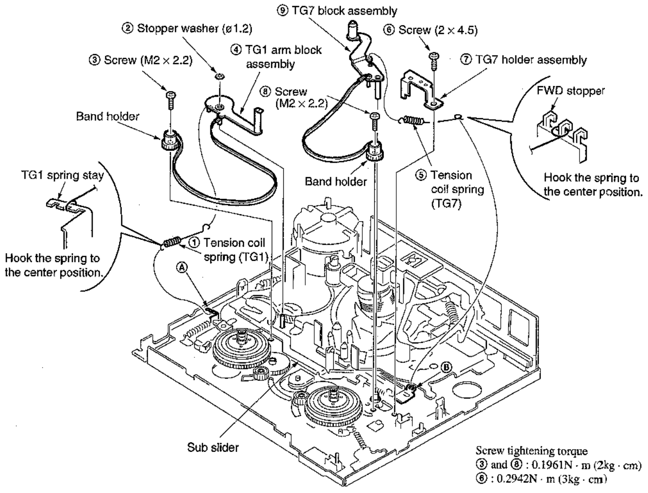
3-4. TG1 arm block assembly and TG7 block assembly

1. Removal

1) Remove the cassette compartment block assembly referring to section 1-1.
2) Remove the RH base block assembly, pendulum arm assembly and dew condensation sensor referring to section 3-3.
3) Remove the tension coil spring (TG1) ① from Ⓐ.
4) Remove the stopper washer (ø1.2) and screw (M2 × 2.2) ③. Remove the TG1 arm block assembly ④ upwards. At this time, be careful not to touch the TG1 tape guide with bare hand.
5) Remove the tension coil spring (TG7) ⑤ from Ⓑ.
6) Remove the screw (2 × 4.5) ⑥, TG7 holder assembly ⑦ and screw (M2 × 2.2) ⑧. Remove the TG7 arm block assembly ⑨ upwards. At this time, be careful not to touch the TG7 tape guide with bare hand.

2. Notes when re-assembling

1) Be careful not to touch the TG1 and TG7 tape guides with bare hand.
2) When attaching the band holders of TG1 and TG7 block assemblies, fix the screws by rotating them in the direction of loosening the bands. (If the bands have tension, tape loading cannot be activated.)
3) After TG1 and TG7 are attached, confirm that both TG1 and TG7 do not collide with the sub slider.
4) After TG1 and TG7 are attached, perform the TG1 and TG7 position adjustment and height adjustment.
5) Perform "Tape path adjustment".


⑨ TG7 block assembly
② Stopper washer (ø1.2)
⑥ Screw (2 × 4.5)
④ TG1 arm block assembly
③ Screw (M2 × 2.2)
⑦ TG7 holder assembly
FWD stopper
⑧ Screw (M2 × 2.2)
Band holder
Band holder
TG1 spring stay
⑤ Tension coil spring (TG7)
Hook the spring to the center position.
① Tension coil spring (TG1)
Hook the spring to the center position.
Ⓐ
Ⓑ
Sub slider

Screw tightening torque
③ and ⑧ : 0.1961N · m (2kg · cm)
⑥ : 0.2942N · m (3kg · cm)

Fig. 6-2-11

3-5. Reel table (S) assembly and reel table (T) assembly

1. Removal

1) Remove the cassette compartment block assembly referring to section 1-1.
2) Remove the RH base block assembly, pendulum arm assembly and dew condensation sensor referring to section 3-3.
3) Remove the TG1 arm block assembly and the TG7 arm block assembly referring to section 3-4.
4) Remove the reel table (S) assembly ① (with white reel cap) and the reel table (T) assembly ② (with black reel cap) upwards. Be careful that the reel table thrust retainer (t = 0.5) ③ can come with the reel table (T) assembly ② at this time.
5) Remove the direct gear assembly ④ upwards
6) Remove the stopper washer (ø1.2) ⑤, limiter gear ⑥ and reel table thrust retainer (t = 0.13) ⑦ in this order. Be careful that the reel table thrust retainer (t = 0.13) ⑦ can come with the limiter gear ⑥ at this time.

2. Notes when re-assembling

1) Before start attaching the parts, confirm that the respective axes of Ⓐ, Ⓑ, Ⓒ, Ⓓ, Ⓔ, Ⓕ and Ⓖ are coated with grease. If they are not coated with grease, coat them with grease as much as 1/2 grain.
2) Be careful not to put grease on the reflection label surface of the direct gear assembly ④.
FLOIL grease SG-941 (7-662-001-39)
3) After the reel table (T) assembly ② is attached, perform "Reel table (T) assembly height check".

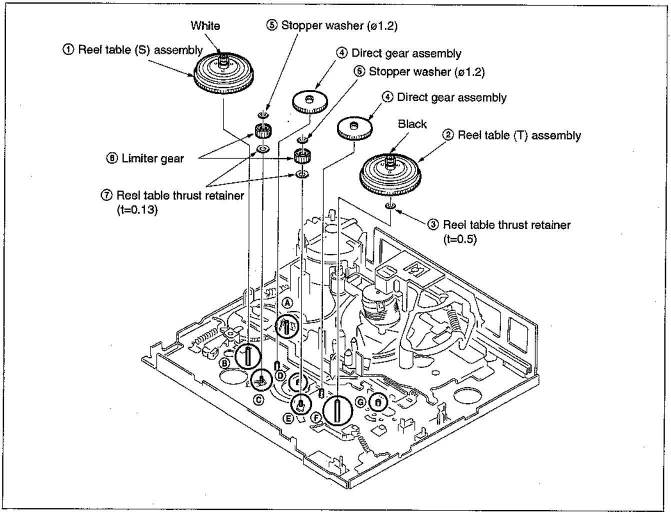

White
⑤ Stopper washer (ø1.2)
① Reel table (S) assembly
④ Direct gear assembly
⑤ Stopper washer (ø1.2)
④ Direct gear assembly
Black
② Reel table (T) assembly
⑥ Limiter gear
⑦ Reel table thrust retainer
(t=0.13)
③ Reel table thrust retainer
(t=0.5)
Ⓐ
Ⓑ
Ⓒ
Ⓓ
Ⓔ
Ⓕ
Ⓖ

Fig. 6-2-12

3-6. S brake block assembly, T brake block assembly, sub slider and FWD stopper

1. Removal

1) Remove the cassette compartment block assembly referring to section 1-1.
2) Remove the RH base block assembly, pendulum arm assembly and dew condensation sensor referring to section 3-3.
3) Remove the TG1 and the TG7 arm block assemblies referring to section 3-4.
4) Remove the reel table (S) assembly and the reel table (T) assembly referring to section 3-5.
5) Remove the tension coil spring ① from the Ⓐ of mechanism chassis.
6) Remove the stopper washer (ø1.2)②, then remove the S brake block assembly (brake arm S ③, S release cam ④, S hard ⑤, torsion coil spring (S hard) ⑥ and torsion coil spring (S brake) ⑦) upwards. Be careful that the torsion coil spring (S hard) ⑥ is very easy to drop, at this time.
7) Remove the TG1 spring stay ⑧.
8) Remove the torsion coil spring ⑨ from Ⓑ of mechanism chassis.
9) Remove the stop washer (ø1.2) ⑩, and remove the brake arm T ⑪.
10) Remove the tension coil spring ⑫ from Ⓒ of the sub slider.
11) Remove the stopper washer (ø1.5) ⑬. Push and slide the sub slider ⑭ in the direction of Ⓓ, and remove the sub slider ⑭ upwards then remove the FWD stopper ⑮ in this order.

2. Notes when re-assembling

1) Before attaching the S brake block assembly, confirm that the bottom of the brake shaft S Ⓔ of the mechanism chassis is coated with grease. If not, coat it with grease as much as 1/2 grain.
2) After the S brake sub assembly is attached, confirm that the dowel Ⓕ of the sub slider ⑭, is inserted in the slot Ⓖ of the sub slider driving lever. Confirm that the Ⓒ part of the sub slider ⑭ is located outside the protrusion Ⓗ of the FWD stopper ⑮, too.
FLOIL grease SG-941 (7-662-001-39)

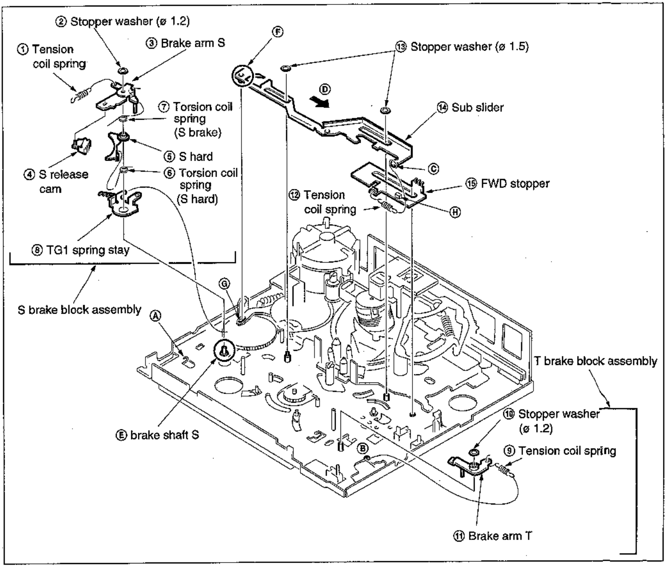

② Stopper washer (ø 1.2)
① Tension coil spring
③ Brake arm S
Ⓕ
⑬ Stopper washer (ø 1.5)
Ⓓ
⑦ Torsion coil spring (S brake)
⑭ Sub slider
⑤ S hard
Ⓒ
④ S release cam
⑥ Torsion coil spring (S hard)
⑮ FWD stopper
⑫ Tension coil spring
Ⓗ
⑧ TG1 spring stay
S brake block assembly
Ⓖ
Ⓐ
T brake block assembly
⑩ Stopper washer (ø 1.2)
Ⓔ brake shaft S
⑨ Tension coil spring
Ⓑ
⑪ Brake arm T

Fig. 6-2-13

3-7. GL gear (S) block assembly, GL gear (T) block assembly, coaster (S) block assembly and coaster (T) block assembly

1. Removal

1) Remove the cassette compartment block assembly referring to section 1-1.
2) Remove the timing belt and capstan cover referring to section 3-1.
3) Remove the RH base block assembly, pendulum arm assembly and dew condensation sensor referring to section 3-3.
4) Remove the stopper washer (ø1.5) ① and stopper washer (ø2) ②, then remove the GL gear (S) block assembly ③.
5) Remove the stopper washer (ø1.5) ④ and stopper washer (ø2) ⑤, then remove the GL gear (T) block assembly ⑥.
6) Remove the stopper washer (ø2.5) ⑦, and remove the coaster (S) block assembly ⑧. Be careful not to touch the tape contacting surface of the coaster with bare hand.
7) Remove the stopper washer (ø2.5) ⑨, and remove the coaster (T) block assembly ⑩. Be careful not to touch the tape contacting surface of the coaster with bare hand.

2. Notes when re-assembling

1) Attach the parts from beneath the mechanism chassis.
2) Be careful not to touch the tape contacting surface of the coaster with bare hand.
3) Perform the phase alignment as shown by the GL gear (S) block assembly ③ and GL gear (T) block assembly ⑥ are attached. (Refer to Fig. a.)
4) After all parts are attached, perform the "Tape path adjustment".

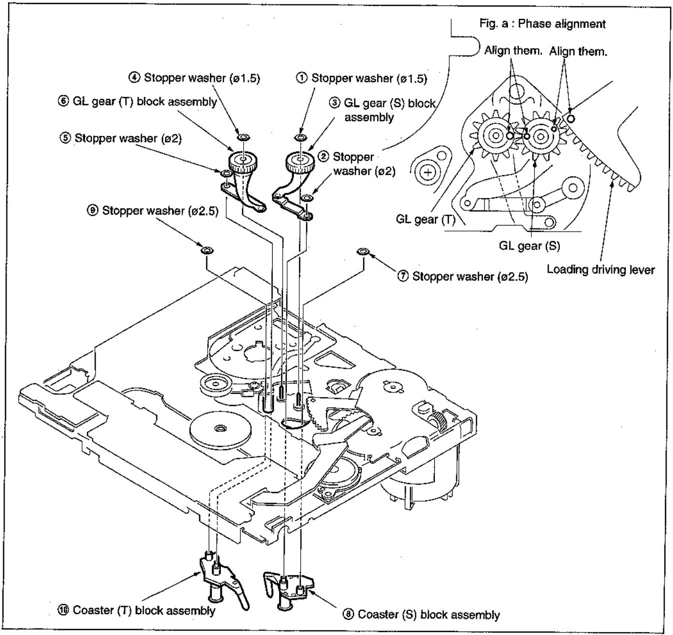


Fig. a : Phase alignment
Align them.
Align them.
④ Stopper washer (ø1.5)
① Stopper washer (ø1.5)
⑥ GL gear (T) block assembly
③ GL gear (S) block assembly
⑤ Stopper washer (ø2)
② Stopper washer (ø2)
⑨ Stopper washer (ø2.5)
GL gear (T)
GL gear (S)
⑦ Stopper washer (ø2.5)
Loading driving lever
⑩ Coaster (T) block assembly
⑧ Coaster (S) block assembly

Fig. 6-2-14

3-8. Cam motor assembly, sub slider driving lever, main cam gear and joint gear

1. Removal

Note 1 : Do not remove the sub chassis (drum base) from the mechanism chassis. Correct tape path will be lost and the tape path adjustment cannot be performed even though the sub chassis (drum base) is re-installed to the mechanism chassis.

Note 2 : The cam motor assembly can be removed from the motor holder by removing the cassette compartment block assembly.

1) Remove the cassette compartment block assembly referring to section 1-1.
2) Remove the drum cap, pinch arm assembly, drum assembly, tape support and HC block assembly referring section 3-2.
3) Remove the RH base block assembly, pendulum arm assembly and dew condensation sensor referring to section 3-3.
4) Remove the TG1 arm block assembly ad TG7 block assembly referring to section 3-4.
5) Remove the reel table (S) assembly and reel table (T) assembly referring to section 3-5.
6) Remove the sub slider referring to section 3-6.
7) Remove harness of the cam motor assembly from Ⓐ of the motor holder. (Refer to Fig. a.).
8) Remove the cam motor assembly ① from the motor holder ③ while taking care not to break the claw.
9) Remove the two screws (2 × 4.5) ②, and remove the motor holder ③.
10) Remove the sub slider driving lever ④, main cam gear ⑤ and joint gear ⑥ in this order.

2. Notes when re-assembling

1) Insert the gears through the phase pins Ⓑ and Ⓒ as follows before attaching the gears.
   Phase pin Ⓑ : Mechanism chassis + mode slider
   Phase pin Ⓒ : Pinch slider + sub cam gear + mechanism chassis
2) Before attaching the joint gear ⑥, confirm that the points Ⓓ and Ⓔ where the mechanical chassis joint gear is attached, and the joint gear worm, with grease. If these points are not coated with grease, coat the points Ⓓ and Ⓔ where the mechanical chassis joint gear is attached, with grease as large as size of a grain. Fill roots of the joint gear worm with grease.
3) Before attaching the main cam gear ⑤, confirm that the portions shown by Fig. b are coated with grease. If not, coat the entrance hole at the center of rotation with grease as large as size of a grain. Fill the cam grooves with grease.
4) Before attaching the cam motor assembly ①, confirm that the gear worm and tip of the gear are coated with grease. If not, coat the tip of the gear with grease as large as size of a grain. Fill roots of the worm of the gear worm with grease.
5) Direct label of the cam motor assembly ① to the front when attaching the cam motor assembly ①.
   FLOIL grease SG-941 (7-662-001-39)

Reference

Procedure to attach the sub cam gear and main cam gear

- Refer to "Notes when re-assembling" of sections 3-8 and 3-9, Fig. 6-2-15 and Fig. 6-2-16.

1) Place a mechanical deck in a posture that cassette comes to the front and the drum is placed in the opposite side.
2) Move the pinch slider (Fig. 6-2-16 -①) to the left-most position then attach it to the mechanism chassis (so that the two dowels of the mechanism chassis fit the groove of pinch slider). Move the pinch slider to the right-most end.
3) Attach the loading drive lever to (Fig. 6-2-16-③) to the mechanism chassis, and rotate the loading drive lever fully clockwise.
   (When the GL gear (Fig. 6-2-14-③ and ⑥) has already been attached, adjust the position so that the smaller round hole of the GL gear S (Fig. 6-2-14-③) agrees with the round hole of the loading drive lever.)
4) Adjust the pinch slider so that the alignment mark (o) of the pinch slider √ agrees with the alignment mark (o) which is inscribed on the inner tooth of the sub cam gear (Fig. 6-2-16-②). (See Fig. 6-2-15-Fig. c) Under this condition, slide the sub cam gear into underneath the sub chassis (drum base) and the pinch slider. At this time, boss of the loading drive lever must inter the cam groove of the sub cam gear.
5) Attach the joint gear (Fig. 6-2-15-⑤) to the mechanism chassis.
6) Adjust the main gear so that the triangle alignment mark of the main cam gear (Fig. 6-2-15-④) of the main cam gear agrees with the triangle alignment mark of the sub cam gear. At the same time, the round alignment mark of the main cam gear and the round alignment mark of the encoder gear (Fig. 6-2-16-④). Under this condition, attach the main cam gear. (See Fig. 6-2-15-Fig. c)
7) Attach the sub slider drive lever (Fig. 6-2-15-④) so that the boss of the sub slider drive lever enters the cam groove of the main cam gear.
8) Insert the front boss of the motor holder (Fig. 6-2-15-③) into the center of the main cam gear, then into the mechanism chassis.(Fig. 6-2-15-*1)
9) Insert the rear boss of the motor holder (Fig. 6-2-15-③) into the center of the sub cam gear (Fig. 6-2-15-*2).
10) Hook the side claw of the motor holder (Fig. 6-2-15-③) to the mechanism chassis.
11) While aligning the hole of the boss in the rear of the motor holder (Fig. 6-2-15-③) with the hole of the mechanism chassis, attach the motor holder (Fig. 6-2-15-③).
12) Fix the motor holder (Fig. 6-2-15-③) using screws at two positions.

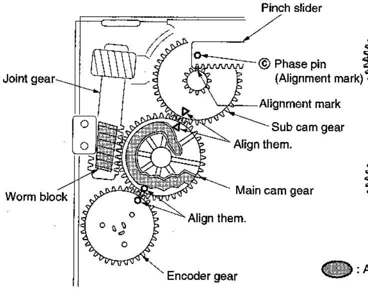
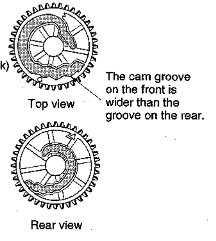
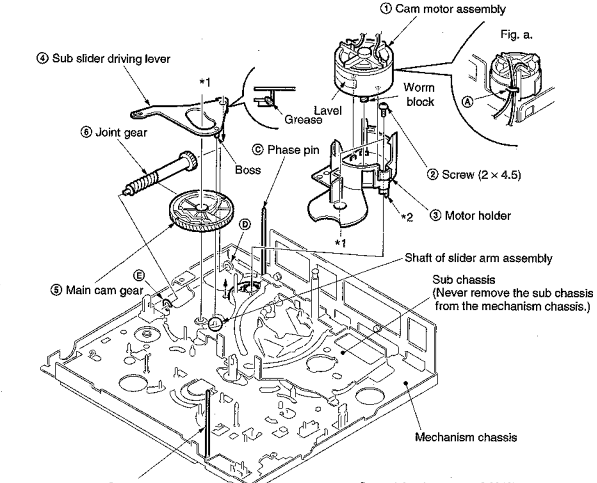

Pinch slider
Ⓒ Phase pin
(Alignment mark)
Joint gear
Alignment mark
Sub cam gear
Align them.
Main cam gear
Worm block
Align them.
Encoder gear

Fig. c. Phase alignment of the pinch slider, sub cam gear, main cam gear and encoder gear.


Top view
The cam groove
on the front is
wider than the
groove on the rear.
Rear view

▨ : Areas which must be coated with grease.

Fig. b. Area of the main cam gear which must be coated with grease.


① Cam motor assembly
Fig. a.
Ⓐ
④ Sub slider driving lever
*1
Grease
Lavel
Worm
block
⑥ Joint gear
Ⓒ Phase pin
Boss
② Screw (2 × 4.5)
③ Motor holder
*2
*1
Ⓓ
Shaft of slider arm assembly
Ⓔ
⑤ Main cam gear
Sub chassis
(Never remove the sub chassis
from the mechanism chassis.)
Mechanism chassis
Ⓑ Phase pin

Screw tightening torque : 0.2942N · m (3kg · cm)

Fig. 6-2-15

3-9. Pinch slider, sub cam gear, loading driving lever and encoder gear

1. Removal

1) Remove the cassette compartment block assembly referring to section 1-1.
2) Remove the drum cap, pinch arm assembly, drum assembly, tape support and HC block assembly referring to section 3-2.
3) Remove the RH base block assembly, pendulum arm assembly and dew condensation sensor referring to section 3-3.
4) Remove the TG1 arm block assembly and the TG7 arm block assembly referring to section 3-4.
5) Remove the reel table (S) assembly and the reel table (T) assembly referring to section 3-5.
6) Remove the S brake block assembly, TG1 spring stay and sub slider referring to section 3-6.
7) Remove the cam motor, sub slider driving lever and main cam referring to section 3-8.
8) Remove the pinch slider ① by sliding in the direction of Ⓐ.
9) Remove the sub cam gear ② and the loading driving lever ③ in this order.
10) Remove the claw of the encoder gear ④ from the encoder switch side of its bottom, and remove the encoder gear ④ upwards.

2. Notes when re-assembling

1) Refer to section "3-8. Reference" for details of attachment.
2) Before attaching the encoder gear ④, confirm that the cam surface is coated with grease. If not, coat the areas which are shown in Fig. a. with grease as large as 1/2 size of a grain.
3) Before attaching the loading driving lever ③, confirm that the burring area is coated with grease. If not, coat it with grease as large as size of a grain as shown in Fig. b.
4) Before attaching the sub cam gear ②, confirm that the area shown by Fig. a is coated with grease. If not, coat the entrance hole at the center of rotation with grease as large as size of a grain. Fill the cam grooves with grease.
5) When attaching the pinch slider ①, first slant it to the left slightly, align it with the dowels Ⓑ in the left of the mechanism chassis, then hold it in horizontal level posture to finally attach it.
6) After the parts are attached, insert the gears through the phase pins Ⓒ and Ⓓ as follows.
   Phase pin Ⓒ : Mechanism chassis + mode slider
   Phase pin Ⓓ : Pinch slider + sub cam gear + mechanism chassis
   FLOIL grease SG-941 (7-662-001-39)

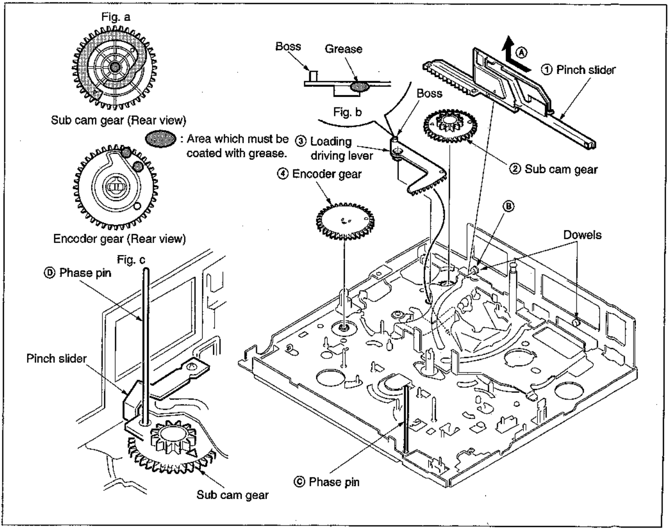


Fig. a
Sub cam gear (Rear view)
: Area which must be coated with grease.
Encoder gear (Rear view)
Boss
Grease
Fig. b
Ⓐ
① Pinch slider
Boss
③ Loading driving lever
④ Encoder gear
② Sub cam gear
Ⓑ
Dowels
Fig. c
Ⓓ Phase pin
Pinch slider
Sub cam gear
Ⓒ Phase pin

Fig. 6-2-16

3-10. Mode slider, slider arm assembly, relay gear and tension pulley

1. Removal

1) Remove the cassette compartment block assembly referring to section 1-1.
2) Remove the drum cap, pinch arm assembly, drum assembly, tape support and HC block assembly referring to section 3-2.
3) Remove the RH base block assembly, pendulum arm assembly and dew condensation sensor referring to section 3-3.
4) Remove the TG1 arm block assembly and the TG7 arm block assembly referring to section 3-4.
5) Remove the reel table (S) assembly and the reel table (T) assembly referring to section 3-5.
6) Remove the S brake block assembly, TG1 spring stay and sub slider referring to section 3-6.
7) Remove the cam motor, sub slider driving lever and main cam referring to section 3-8.
8) Remove the tension coil spring ① from the limiter arm (T) at the spring R hook side ("Ⓐ" part).
9) Remove the mode slider ② in the direction of the arrow Ⓑ.
10) Remove the slider arm assembly ③ in the direction of the arrow Ⓒ.
11) Remove the stopper washer (ø1.2) ④, and remove the relay gear ⑤.
12) Remove the stopper washer (ø1.2) ⑥, and remove the tension pulley ⑦.

2. Notes when re-assembling

1) Before attaching the tension pulley ⑦, apply a drop of oil to Ⓓ part of the tension pulley shaft (on the tension arm assembly).
2) Before attaching the tension pulley ⑦ and relay gear ⑤, confirm that Ⓔ part of the relay gear shaft (on the mechanism chassis and Ⓕ part of the limiter arm (T) are coated with grease. If not coat them with grease as much as 1/2 grain.
3) Before attaching the tension pulley ⑦ and relay gear ⑤, move down the limiter arm (T) and the limiter arm (S). (In the direction of the arrow Ⓖ)
4) Before attaching the slider arm assembly ③, move up the limiter arm (T) and the limiter arm (S). (In the direction of the arrow Ⓗ)
5) Before attaching the mode slider ②, confirm that the area shown by Fig. a is coated with grease. If not fill the cam grooves with grease.
6) After the mode slider ② is attached, slide the mode slider to the right and align the phase hole at the right bottom of the mode slider with the phase hole of the mechanism chassis. (Refer to Fig. b.)

Mitsubishi diamond oil hydro fluid NT-68 (7-661-018-18)
FLOIL grease SG-941 (7-662-001-39)

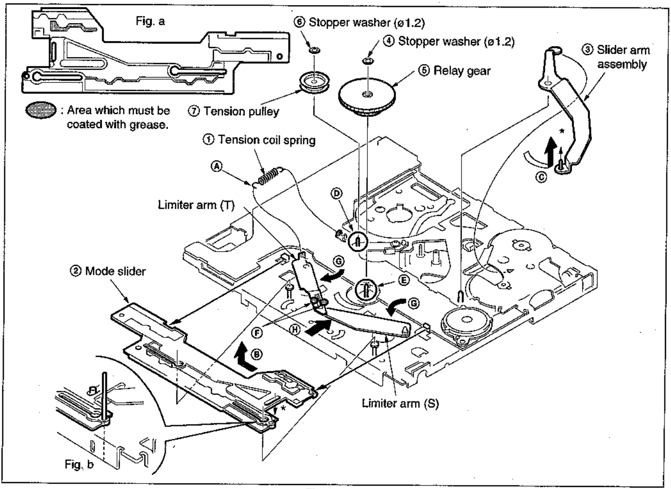


Fig. 6-2-17

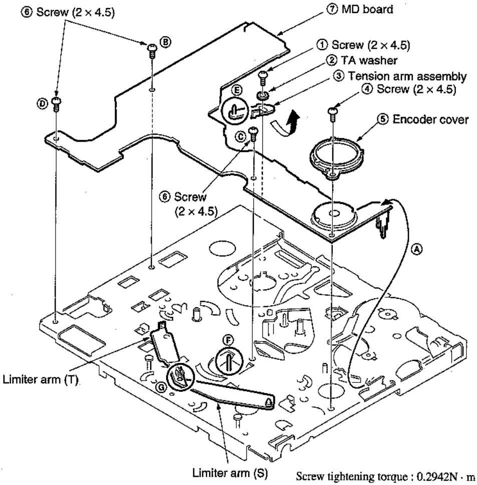
3-11. Tension arm assembly and MD board

1. Removal

1) Remove the cassette compartment block assembly referring to section 1-1.
2) Remove the timing belt and capstan cover referring to section 3-1.
3) Remove the drum cap, pinch arm assembly, drum assembly, tape support and HC block assembly referring to section 3-2.
4) Remove the RH base block assembly, pendulum arm assembly and dew condensation sensor referring to section 3-3.
5) Remove the TG1 arm block assembly and the TG7 arm block assembly referring to section 3-4.
6) Remove the reel table (S) assembly and the reel table (T) assembly referring to section 3-5.
7) Remove the S brake block assembly, TG1 spring stay and sub slider referring to section 3-6.
8) Remove the cam motor, sub slider driving lever and main cam referring to section 3-8.
9) Remove the pinch slider, sub cam gear and encoder gear referring to section 3-9.
10) Remove the mode slider, slider arm assembly, relay gear and tension pulley referring to section 3-10.
11) Remove the screw (2 × 4.5) ①, TA washer ② and tension arm assembly ③ in this order.
12) Remove the screw (2 × 4.5) ④, and remove the encoder cover ⑤ while taking care not to break the claw.
13) Remove the three screws (2 × 4.5) ⑥, and remove the MD board ⑦ in the direction of the arrow Ⓐ.

2. Notes when re-assembling

1) The tension arm assembly ③ must not collide with the mechanism chassis.
2) When attaching the MD board ⑦, tighten the screws (2 × 4.5) ⑥ in the order of Ⓑ, Ⓒ and Ⓓ.
3) After all parts are attached, confirm that Ⓔ part of the tension pulley shaft, Ⓕ part of the relay gear shaft, and Ⓖ part of the limiter arm (T) are coated with grease. If not, coat them with grease as much as 1/2 grain.
FLOIL grease SG-941 (7-662-001-39)

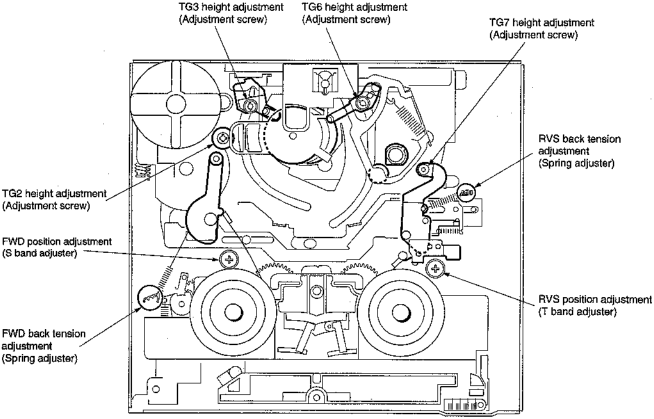


Screw tightening torque : 0.2942N · m (3kg · cm)

Fig. 6-2-17

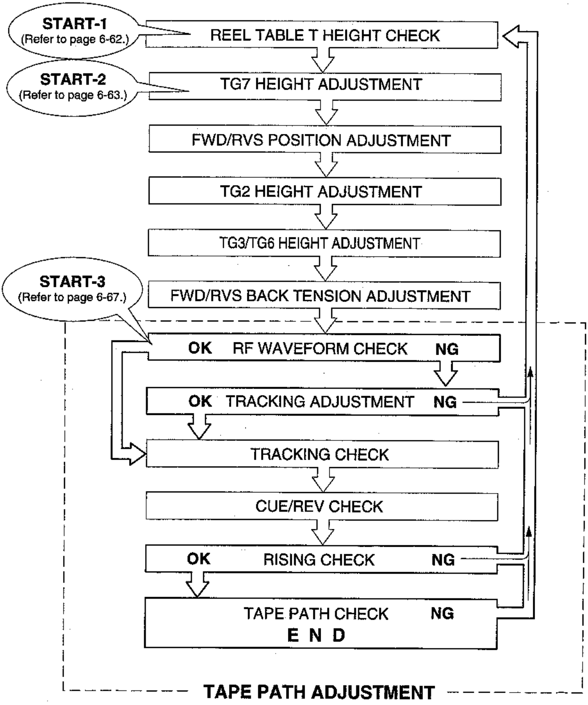
2-4. ADJUSTMENTS AND CHECKS

4-1. ADJUSTMENT POSITION


TG3 height adjustment
(Adjustment screw)
TG6 height adjustment
(Adjustment screw)
TG7 height adjustment
(Adjustment screw)
RVS back tension
adjustment
(Spring adjuster)
TG2 height adjustment
(Adjustment screw)
FWD position adjustment
(S band adjuster)
RVS position adjustment
(T band adjuster)
FWD back tension
adjustment
(Spring adjuster)

LOADING mode

4-2. ADJUSTMENT ORDER


START-1
(Refer to page 6-62.)
REEL TABLE T HEIGHT CHECK
START-2
(Refer to page 6-63.)
TG7 HEIGHT ADJUSTMENT
FWD/RVS POSITION ADJUSTMENT
TG2 HEIGHT ADJUSTMENT
TG3/TG6 HEIGHT ADJUSTMENT
START-3
(Refer to page 6-67.)
FWD/RVS BACK TENSION ADJUSTMENT
OK RF WAVEFORM CHECK NG
OK TRACKING ADJUSTMENT NG
TRACKING CHECK
CUE/REV CHECK
OK RISING CHECK NG
TAPE PATH CHECK NG
E N D
TAPE PATH ADJUSTMENT

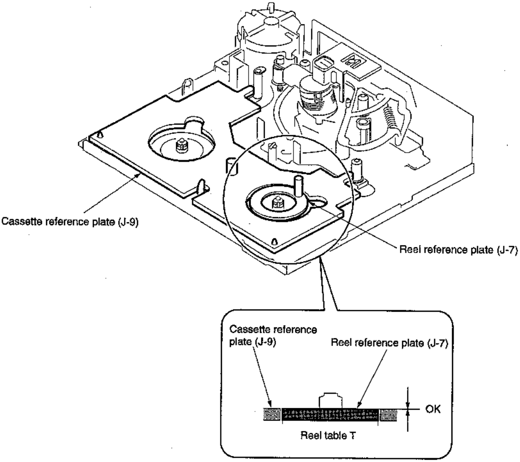
4-3. ADJUSTMENT AND CHECK METHOD

4-3-1. REEL TABLE T HEIGHT CHECK

1. Preparation before check

FL block : Remove
Position : **(LOADING)**
Jig used : Reel reference plate (J-7) and cassette reference plate (J-9)

2. Checking

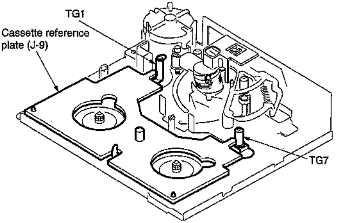

Cassette reference plate (J-9)
Reel reference plate (J-7)
Cassette reference plate (J-9)
Reel reference plate (J-7)
OK
Reel table T

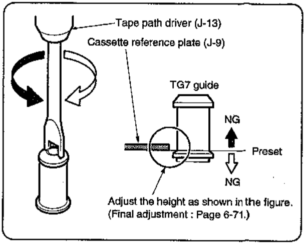
4-3-2. TG7 HEIGHT ADJUSTMENT

1. Preparation before adjustment

FL block : Remove
Position : **LOADING**
Jig used : Cassette reference plate (J-9) and tape path driver (J-13)

2. Adjustment


TG1
Cassette reference plate (J-9)
TG7


Tape path driver (J-13)
Cassette reference plate (J-9)
TG7 guide
NG
Preset
NG

Adjust the height as shown in the figure.
(Final adjustment : Page 6-71.)

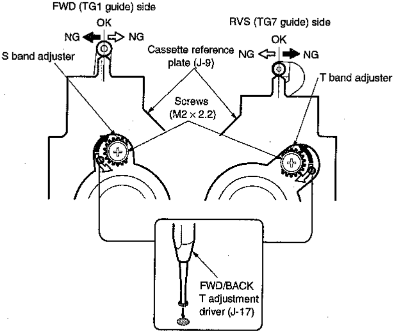
4-3-3. FWD/RVS POSITION ADJUSTMENT

1. Preparation before adjustment

FL block : Remove
Position : **LOADING** (The pinch roller should be stuck.)
Jig used : Cassette reference plate (J-9) and FWD/BACK T adjustment driver (J-17)

2. Adjustment

First, loosen slightly the screws (M2 × 2.2) securing S and T band adjusters.
After adjustment, tighten the screws (M2 × 2.2) securing the S and T band adjusters. (Torque : 0.1961N · m (2 kg · cm))

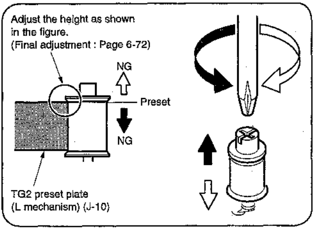

FWD (TG1 guide) side
OK
NG
NG
S band adjuster
Cassette reference plate (J-9)
RVS (TG7 guide) side
OK
NG
NG
T band adjuster
Screws (M2 × 2.2)
FWD/BACK T adjustment driver (J-17)

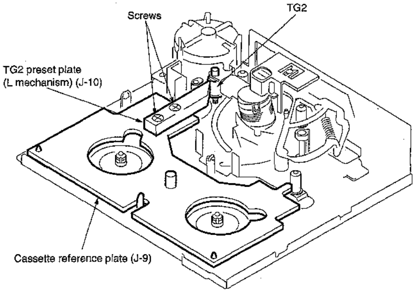
4-3-4. TG2 HEIGHT ADJUSTMENT

1. Preparation before adjustment

FL block : Remove
Position : LOADING
Jig used : Cassette reference plate (J-9), TG2 preset plate (L mechanism) (J-10) and screwdriver
Jig setup : Attach the TG2 preset plate (L mechanism) to the cassette reference plate with two screws.

2. Adjustment


Adjust the height as shown in the figure.
(Final adjustment : Page 6-72)
NG
Preset
NG
TG2 preset plate
(L mechanism) (J-10)

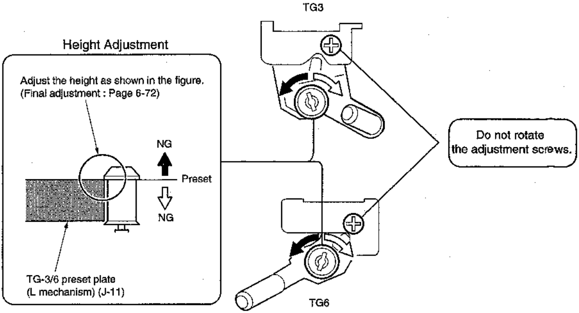

Screws
TG2
TG2 preset plate
(L mechanism) (J-10)
Cassette reference plate (J-9)

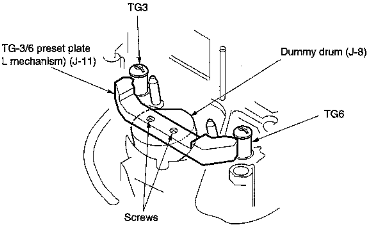
4-3-5. TG3/TG6 HEIGHT ADJUSTMENTS

1. Preparation before adjustment

FL block : Remove
Drum assembly : Remove
Position : (LOADING)
Jig used : Dummy drum (J-8), TG-3/6 preset plate (L mechanism) (J-11) and screwdrivers
Jig setup : Attach the TG-3/6 preset plate (L mechanism) to the dummy drum with screws.

2. Adjustment


TG3
Height Adjustment
Adjust the height as shown in the figure.
(Final adjustment : Page 6-72)
NG
Preset
NG
TG-3/6 preset plate
(L mechanism) (J-11)
Do not rotate
the adjustment screws.
TG6


TG3
TG-3/6 preset plate
L mechanism) (J-11)
Dummy drum (J-8)
TG6
Screws

4-3-6. FWD/RVS BACK TENSION ADJUSTMENT

1. Preparation before adjustment

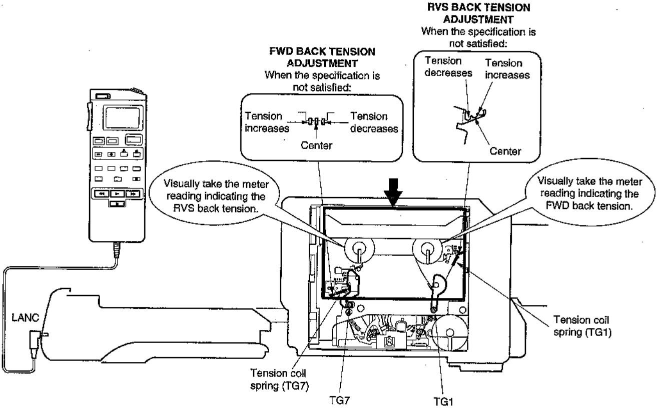
Mechanism deck : Install the mechanism deck to the DCR machine.
Jig used : DV torque cassette (J-6) and a pair of tweezers (for changing the staying position of spring)

2. Adjustment

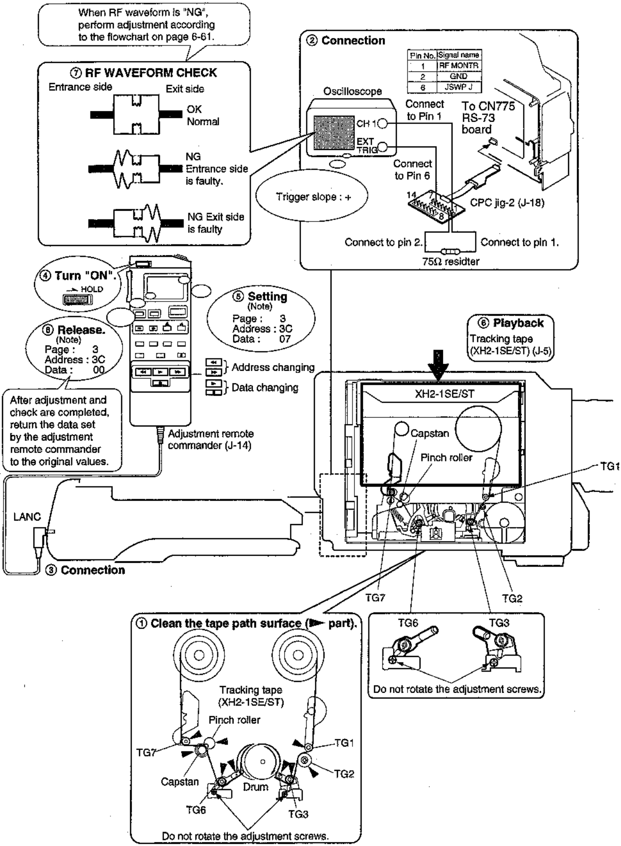
Note : At the FWD (TG1) side, measure the DV torque cassette (J-6) in the FWD mode.
At the RVS (TG7) side, measure the DV torque cassette (J-6) in the RVS mode.

Specified value:

FWD back tension	1.226 — 1.520mN · m (12.5 — 15.5g · cm)
RVS back tension	0.706 — 1.226mN · m (7.2 — 12.5g · cm)


RVS BACK TENSION ADJUSTMENT
When the specification is not satisfied:
Tension decreases
Tension increases
Center
FWD BACK TENSION ADJUSTMENT
When the specification is not satisfied:
Tension increases
Tension decreases
Center
Visually take the meter reading indicating the RVS back tension.
Visually take the meter reading indicating the FWD back tension.
LANC
Tension coil spring (TG1)
Tension coil spring (TG7)
TG7
TG1

4-3-7. PREPARATION FOR ADJUSTMENT AND RF WAVEFORM CHECK



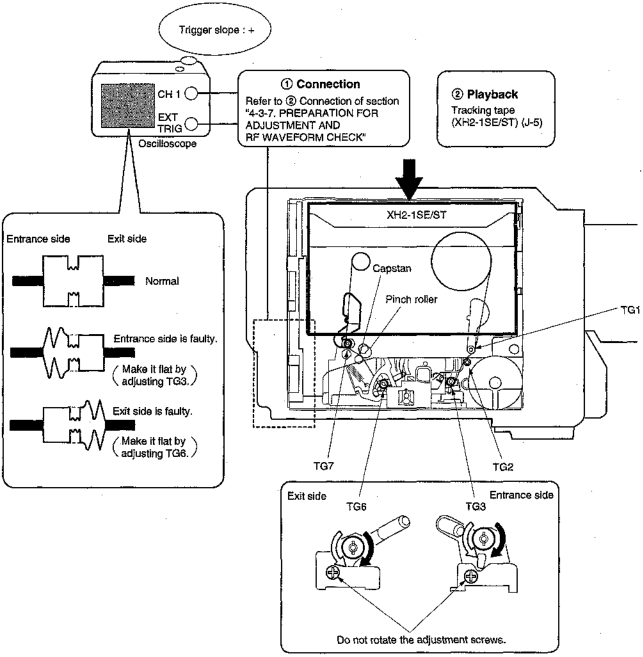
When RF waveform is "NG", perform adjustment according to the flowchart on page 6-61.

After adjustment and check are completed, return the data set by the adjustment remote commander to the original values.

Pin No.	Signal name
1	RF MONTR
2	GND
6	JSWP J

⑦ RF WAVEFORM CHECK
Entrance side
Exit side
OK
Normal
NG
Entrance side is faulty.
NG Exit side is faulty
② Connection
Oscilloscope
CH 1
EXT TRIG
Connect to Pin 1
Connect to Pin 6
To CN775 RS-73 board
Trigger slope : +
CPC jig-2 (J-18)
14
7
1
8
Connect to pin 2.
Connect to pin 1.
75Ω residter
④ Turn "ON".
HOLD
⑤ Setting
(Note)
Page : 3
Address : 3C
Data : 07
⑧ Release.
(Note)
Page : 3
Address : 3C
Data : 00
Address changing
Data changing
Adjustment remote commander (J-14)
LANC
③ Connection
⑥ Playback
Tracking tape (XH2-1SE/ST) (J-5)
XH2-1SE/ST
Capstan
Pinch roller
TG1
TG7
TG2
① Clean the tape path surface (▶ part).
Tracking tape (XH2-1SE/ST)
Pinch roller
TG7
TG1
Capstan
Drum
TG2
TG6
TG3
Do not rotate the adjustment screws.
TG6
TG3
Do not rotate the adjustment screws.

4-3-8. TRACKING ADJUSTMENT



① **Connection**

Refer to ② Connection of section "4-3-7. PREPARATION FOR ADJUSTMENT AND RF WAVEFORM CHECK"

② **Playback**

Tracking tape (XH2-1SE/ST) (J-5)

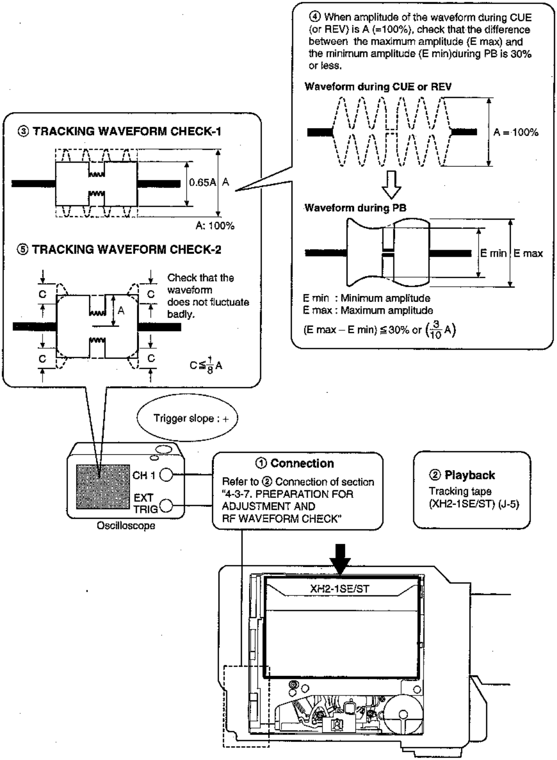
Entrance side is faulty. (Make it flat by adjusting TG3.)

Exit side is faulty. (Make it flat by adjusting TG6.)

Do not rotate the adjustment screws.

Trigger slope : +
CH 1
EXT TRIG
Oscilloscope
Entrance side
Exit side
Normal
XH2-1SE/ST
Capstan
Pinch roller
TG1
TG7
TG2
Exit side
TG6
TG3
Entrance side

4-3-9. TRACKING CHECK



① **Connection**

Refer to ② Connection of section "4-3-7. PREPARATION FOR ADJUSTMENT AND RF WAVEFORM CHECK"

② **Playback**

Tracking tape (XH2-1SE/ST) (J-5)

③ TRACKING WAVEFORM CHECK-1

⑤ TRACKING WAVEFORM CHECK-2

Check that the waveform does not fluctuate badly.

C≦$\frac{1}{8}$A

④ When amplitude of the waveform during CUE (or REV) is A (=100%), check that the difference between the maximum amplitude (E max) and the minimum amplitude (E min)during PB is 30% or less.

Waveform during CUE or REV

Waveform during PB

E min : Minimum amplitude
E max : Maximum amplitude

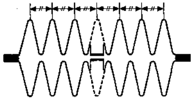
(E max – E min) ≦ 30% or ($\frac{3}{10}$A)

0.65A
A
A: 100%
C
A
A = 100%
E min
E max
Trigger slope : +
CH 1
EXT TRIG
Oscilloscope
XH2-1SE/ST

4-3-10. CUE AND REV CHECK

Waveform during **CUE** or **REV**

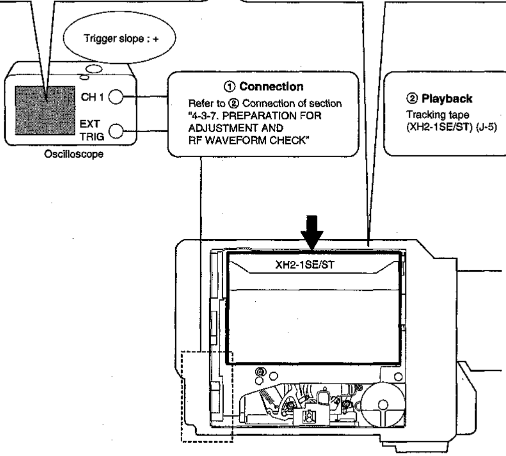
OK : Distance between peaks should be equal.
NG : Distance between peaks is not equal.



③ Check waveform in the CUE ▶ + ▶▶ mode.
(See the waveform on the left.)

④ Check waveform in the REV ▶ + ◀◀ mode.
(See the waveform on the left.)

If ③or ④ is "**NG**", perform section "**4-3-8. TRACKING ADJUSTMENT**" again.


Trigger slope : +
CH 1
EXT
TRIG
Oscilloscope
XH2-1SE/ST

① Connection
Refer to ② Connection of section "4-3-7. PREPARATION FOR ADJUSTMENT AND RF WAVEFORM CHECK"

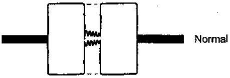
② Playback
Tracking tape
(XH2-1SE/ST) (J-5)

4-3-11. RISING CHECK

Repeat the rising checks from RISING CHECK-1 to RISING CHECK-3.

④ RISING CHECK-1

This waveform should rise within two seconds after the playback button is pressed.



⑤ RISING CHECK-2

This waveform (waveform ④) should rise within two seconds after the CUE or REV.

⑥ RISING CHECK-3

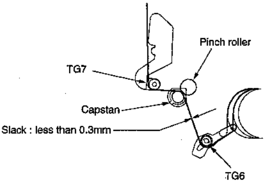
This waveform (waveform ④) should rise within two seconds after the playback button is pressed in the FF or REW mode.

Trigger slope : +

FINAL ADJUSTMENT OF TG7 HEIGHT

③ Check the slack of tape around the pinch roller during each rising check.

If the slack is not corrected, adjust the TG7 height. (Adjust following the flowchart (START-2) on page 6-61.)

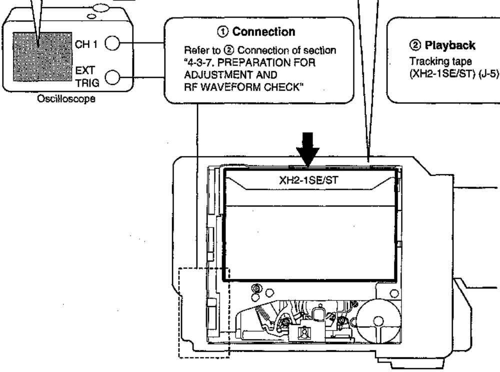

Pinch roller
TG7
Capstan
Slack : less than 0.3mm
TG6

① Connection

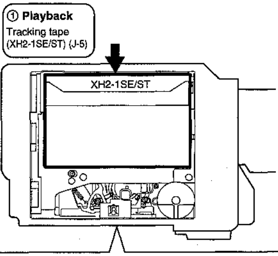
Refer to ② Connection of section "4-3-7. PREPARATION FOR ADJUSTMENT AND RF WAVEFORM CHECK"

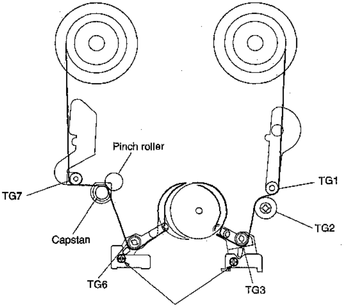
② Playback

Tracking tape (XH2-1SE/ST) (J-5)


CH 1
EXT TRIG
Oscilloscope
XH2-1SE/ST

4-3-12. TAPE PATH CHECK

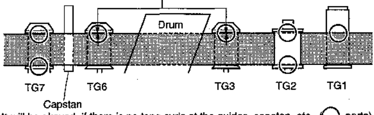

① Playback
Tracking tape
(XH2-1SE/ST) (J-5)


Pinch roller
TG7
TG1
TG2
Capstan
TG6
TG3

Note : Do not rotate the adjustment screws.

The following is ideal tape path, but it is satisfactory if the RF waveform is normal.

Tape's top edge should run in contact with the upper flange.


Drum
TG7
TG6
TG3
TG2
TG1
Capstan

② It will be okayed, if there is no tape curls at the guides, capstan, etc., (○ parts) in the **CUE** ▶▶ and **REV** ◀◀ modes.

③ **After adjustment and check are completed, return the data set by the adjustment remote commander, to the original values.**

6-3. VIDEO SECTION ADJUSTMENT

When performing adjustments, refer to the layout diagrams for adjustment related parts beginning from page 6-106.

3-1. PREPARATIONS BEFORE ADJUSTMENT

The following adjustment instruments are used for adjusting the video section.

3-1-1. Equipments to be used

1) TV monitor
2) Oscilloscope : dual trace, band 30MHz or wider, with delay mode. (Use a 10 : 1 probe unless otherwise specified.)
3) Frequency counter
4) Pattern generator with video output terminal
5) Digital voltmeter
6) Audio generator
7) Audio level meter
8) Audio distortion meter
9) Audio attenuator
10) Regulated power supply
11) Alignment tape
    For NTSC model
    - For tracking top adjustment (XH2-1ST)
      Part code : 8-967-977-02
    - For tracking end adjustment (XH2-1SE)
      Part code : 8-967-977-03
    - For switching and overlap adjustment (XH2-3S)
      Part code : 8-967-977-12
    - For audio operation check (XH5-3S)
      Part code : 8-967-977-52
    - For system operation check (XH5-5S)
      Part code : 8-967-977-62
    - BIST reference tape (XH5-6S)
      Part Code : 8-967-977-72

    For PAL model
    - For tracking top adjustment (XH2-1ST)
      Part code : 8-967-977-02
    - For tracking end adjustment (XH2-1SE)
      Part code : 8-967-977-03
    - For switching and overlap adjustment (XH2-3S)
      Part code : 8-967-977-12
    - For audio operation check (XH5-3PS)
      Part code : 8-967-977-56
    - For system operation check (XH5-5PS)
      Part code : 8-967-977-67
    - BIST reference tape (XH5-6PS)
      Part Code : 8-967-977-77
12) Remote commander for adjustment (J-6082-053-B)
13) CPC 2 jig
    Part Code : J-6082-140-A

3-1-2. Precautions in adjustments

1) The adjustments of this video camera recorder are performed either in the VTR mode or in the camera mode. The VTR can be established by setting the power switch to the VTR position or by entering the "forced VTR power ON" mode using the adjustment remote commander. (Note 1) The camera mode can be established by setting the power switch to the CAMERA position or by entering the "forced camera + VTR power ON" mode using the adjustment remote commander. (Note 2) After completing adjustments, be sure to exit the "forced VTR power ON mode" or "forced camera + VTR power ON" mode. (Note 3)

Note 1 : How to enter the "forced VTR power ON" mode:
1) Set data : 01 to address : 00 on page : 1.
2) Set data : 02 to address : 03 on page : D, and press the PAUSE button of the adjustment remote commander. If the "forced VTR power ON mode" is established, the VTR power can be turned ON, even though the CABINET (R) ASSY (POWER, VTR/CAM, FOCUS and IRIS switches are mounted in it) is removed. After completing adjustments, be sure to exit the "forced power ON mode".

Note 2 : How to enter the "forced camera + VTR power ON" mode (camera mode) :
1) Set data : 01 to address : 00 on page : 1.
2) Set data : 03 to address : 03 on page : D, and press the PAUSE button of the adjustment remote commander. If the "forced VTR power ON mode" is established, the camera power can be turned ON, even though the CABINET (R) ASSY is removed. After completing adjustments, be sure to exit the "forced power ON mode".

Note 3 : How to exit the "forced power ON mode":
1) Set data : 01 to address : 00 on page : 1.
2) Set data : 00 to address : 03 on page : D, and press the PAUSE button of the adjustment remote commander.
3) Set data : 00 to address : 00 on page : 1.

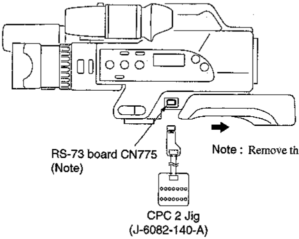
3-1-3. Adjustment connector (RS-73 board CN775)

Some video section adjustment points are concentrated to the RS-73 board CN775. Connect the measuring equipment via the jig (Multi CPC 2 : J-6082-140-A).

RS-73 board CN775

Pin No.	Signal Name	Pin No.	Signal Name
1	RF MONTR	2	GND
3	ENV OUT	4	REF OUT
5	LOCK	6	JSWP J
7	SYCS	8	ERRP
9	VP CK CS	10	PLAJP
11	AFREF	12	SCDVCS
13	VA DV CS	14	ENV CONST

Table. 6-3-1.


RS-73 board CN775
(Note)
CPC 2 Jig
(J-6082-140-A)

Note : Remove the cover which is attached to the cabinet (R).

Fig. 6-3-1.

3-1-4. Connecting the equipment

Connect the measuring equipment as shown in Fig. 6-3-2 for performing the adjustments.

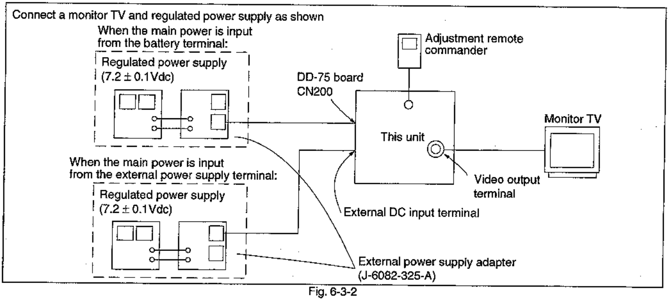

Connect a monitor TV and regulated power supply as shown
When the main power is input from the battery terminal:
Regulated power supply (7.2 ± 0.1Vdc)
When the main power is input from the external power supply terminal:
Regulated power supply (7.2 ± 0.1Vdc)
DD-75 board CN200
Adjustment remote commander
This unit
Monitor TV
Video output terminal
External DC input terminal
External power supply adapter (J-6082-325-A)

Fig. 6-3-2

The color bar signal which is recorded in the alignment tape.

Note : Measured at video input/output connector (across 75Ω termination).

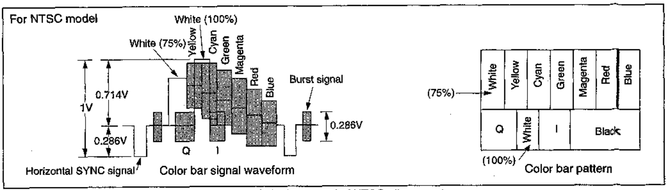

For NTSC model
White (100%)
White (75%)
Yellow
Cyan
Green
Magenta
Red
Blue
Burst signal
0.714V
1V
0.286V
Q
I
0.286V
Horizontal SYNC signal
Color bar signal waveform
(75%)
White
Yellow
Cyan
Green
Magenta
Red
Blue
Q
White
I
Black
(100%)
Color bar pattern

Fig. 6-3-3 Color bar signal of NTSC alignment tape

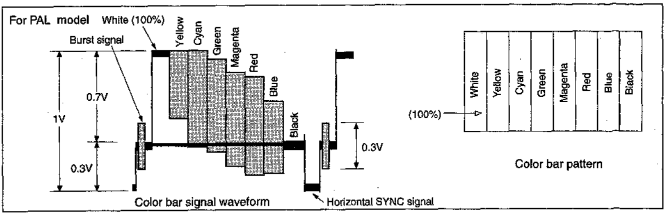

For PAL model
White (100%)
Yellow
Cyan
Green
Magenta
Red
Blue
Black
Burst signal
0.7V
1V
0.3V
0.3V
Color bar signal waveform
Horizontal SYNC signal
(100%)
White
Yellow
Cyan
Green
Magenta
Red
Blue
Black
Color bar pattern

Fig. 6-3-4 Color bar signal of PAL alignment tape

3-1-5. Output level and impedance

Video output	Pin jack Output signal : 1Vp-p, 75Ω unbalanced, sync negative
S video output	4-pin mini DIN Luminance signal : 1Vp-p, 75Ω, unbalanced, sync negative Chrominance signal : 0.286Vp-p (NTSC) 75Ω, unbalanced 0.3Vp-p (PAL) 75Ω, unbalanced
Audio output	Pin jack Output impedance : 2.2kΩ or less
Audio input	CANON Connector Input level –7.5dBs, input impedance more than 47kΩ

3-2. SERVICE MODE

Additional note on adjustment.

Note : After the completion of the all adjustments, cancel the service mode by either of the following ways.

1) Unplug the main power supply and remove the rechargeable button battery (LI-60 board). (In this case , date and time and menu setting have been set by users are canceled. Perform resetting.)
2) After data on page : D is restored, return data of the address: 00 on page : 1 to 00. And when data on page : 2 to page : 5 is changed, return the data to the original values.

3-2-1. Setting the VTR & CAM mode ON

Mode	Stop
Signal	Any signal
Adjustment Page	D
Adjustment Address	03

* For page D, the set data will be recorded in the nonvolatile memory by pressing the PAUSE button of the adjustment remote commander. Take note that, when the test mode is set, the test mode will not be released even if the main power has been turned off (7.2Vdc).

* Be sure to return this address to data 00 after completing adjustments/repairs and press the PAUSE button of the adjusting remote commander. And set data : 00 to page : 1, address : 00.

Setting procedure:

Order	Page	Address	Data	Procedure
1				Set the remote commander (RM-95) to HOLD (adjustment position), and turn on the UNREG power supply.
2	1	00	01	Set the data. (Preparation)
3	D	03		After setting the data as follows in accordance with the test mode, press the PAUSE button. 00 Normal 01 Forced CAMERA Power-ON 02 Forced VTR Power-ON 03 Forced CAMERA +VTR Power-ON

How to cancel the VTR &CAM mode ON.

Order	Page	Address	Data	Procedure
1	D	03	00	After setting the data, press the PAUSE button.
2	1	00	00	Set the data. (End)

3-2-2. Emergency memory address

Page C	Address 30 to 3B

Address	Contents
30	EMG code when the first emergency has occurred.
32	Upper : MSW code of the machine status in which transition has started then the first emergency occurred. Lower : MSW code when the first emergency has occurred.
33	Lower : MSW code of the machine movement target when the first emergency has occurred.
34	EMG code when the second emergency has occurred.
36	Upper : MSW code of the machine status in which transition has started then the second emergency occurred. Lower : MSW code when the second emergency has occurred.
37	Lower : MSW code of the machine movement target when the second emergency has occurred.
38	EMG code when the last emergency has occurred.
3A	Upper : MSW code of the machine status in which transition has started then the last emergency occurred. Lower : MSW code when the last emergency has occurred.
3B	Lower : MSW code of the machine movement target when the last emergency has occurred.

When there are no emergency, data 00 will be written in the above address (30 to 3B). When the first emergency occurs, the data corresponding to the emergency will be written in the first emergency address (30 to 33). In the same way, when the second emergency occurs, the data corresponding to the emergency will be written in the second emergency address (34 to 37).
The data corresponding to the emergency occurring last will be written in the last emergency address (38 to 3B).
Therefore the data of addresses (38 to 3B) are renewed each time an emergency occurs.

Note : Be sure to rewrite the data of addresses 30 to 3B to 00 after repairs/adjustment.

Adjustment procedure:

Order	Page	Address	Data	Procedure
1	1	00	01	Set the data.
2	C	30 31 32 33 34 35 36 37 38 39 3A 3B	00	After setting the data to each address, press the PAUSE button.
3	1	00	00	Set the data.

3-2-3. EMG code (Emergency code)

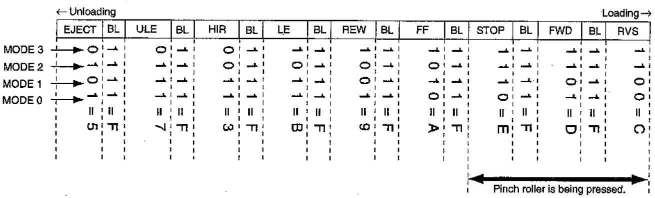
The emergency codes are stored in the addresses : 10, 14 and 18 corresponding to the types of errors occurred. Types of error code are shown in the following table.

Code	Error Status
00h	No error (Initial state)
10h	Loading motor time-out during loading
11h	Loading motor time-out during unloading
13h	Cassette control motor error
22h	T reel error
23h	S reel error
24h	T reel error (S and T terminals are shorted.)
30h	Capstan start-up error
35h	When finger is pinched and cassette compartment tries to move down 4th/5th times
40h	FG error at drum start-up
42h	FG error during normal rotation of drum
43h	Drum error during loading
50h	Tape winding error of T reel during unloading (reel slack)
51h	S reel tape takeup error in remaining tape calculation during loading

3-2-4. MSW code

- The lower digit data of the page C : address : 32, 36 and 3A indicate the MSW code (mode switch code) when an error occurs.
- The upper digit data of the page C : address : 32, 36 and 3A indicate the MSW code (mode switch code) of mode transition (mode SW code before mode transition) when an error occurs.
- The lower digit data of the page F : addresses : 13, 17 and 1B indicate the MSW code (mode switch code) of transition target (code to which the machine is going to enter) when an error occurs.

Mechanical position



	EJECT	BL	ULE	BL	HIR	BL	LE	BL	REW	BL	FF	BL	STOP	BL	FWD	BL	RVS
MODE 3	0	1	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1
MODE 2	1	1	1	1	0	1	0	1	0	1	0	1	1	1	1	1	1
MODE 1	0	1	1	1	1	1	1	1	0	1	1	1	1	1	0	1	0
MODE 0	1	1	1	1	1	1	1	1	1	1	0	1	0	1	1	1	0
	=5	=F	=7	=F	=3	=F	=B	=F	=9	=F	=A	=F	=E	=F	=D	=F	=C

Mechanism Position	MSW Code	Contents
EJECT	5	Eject position. The mechanism comes to this position when the mechanism has ejected a cassette.
BL	F	Blank code. This is the separating code between two codes. The mechanism will not be stopped by this code while operating. (Except for loading and unloading.)
ULE	7	This is the position which the mechanism goes through during loading. This position is close to the eject position.
HIR	3	This is the position where tension regulators open and tape is brought to contact with drum.
LE	B	This is the position where tape guides have completed tape loading. Torque limiter is turned ON.
REW	9	The rewind position. Pinch roller is detached from capstan in this position. Torque limiter is turned OFF. (Reel and capstan are directly connected.)
FF	A	The fast forward position. Pinch roller is detached from capstan in this position. Torque limiter is turned OFF. (Reel and capstan are directly connected.)
STOP	E	The stop position. Pinch roller is detached from capstan in this position, and brakes are engaged on both reels.
FWD	D	This position allows tape to run in the FWD direction by pressing pinch roller against capstan. The modes such as REC, PB, FWD X 2, CUE and FWD-SLOW, operate at this position. Torque limiter is turned ON.
RVS	C	This position allows tape to run in the FWD direction by pressing pinch roller against capstan. The modes such as R X 1, R X 2, RVS and RVS-SLOW, operate at this position. Torque limiter is turned ON.
NULL	0	This code does not exist in the mechanism deck. When an error occurs while loading motor is not energized, this code is memorized by the error status memory.

3-2-5. Key input check

Bit	Key switch	Switch condition
0	PHOTO REC SW	1=OFF 0=ON
1	PHOTO FREEZE SW	
2	EJECT SW	
3	VTR MODE SW : NTSC PLAYER MODE SW : PAL	
4	PHOTO STBY SW	
5	CAM START/STOP SW	
6	CC DOWN SW	
7	CAM+STBY SW	

Adjustment procedure:

Order	Page	Address	Data	Procedure
1	0	FF	00	Set the data.
2	2	01		ON or OFF of each key switch can be known from the bit value on display.

3-2-6. Key input check (A/D port)

- VK-41, ED-44, FS-78, FK-68, AM-38 boards and FI 4520 block

Display data Address	00 to 10	11 to 4C	4D to 7E	7F to B1	B2 to E7	E7 to FF
1B (KEY AD IN 0)	(□) STOP (VK-41 board S506)	(◀◀) REW (VK-41 board S507)	(▷) PB (VK-41 board S508)	AUDIO DUB (VK-41 board S509)	(●) REC (VK-41 board S510)	No key input
1C (KEY AD IN 1)	(❚❚) PAUSE (VK-41 board S512)	(▶▶) FF (VK-41 board S513)	(❚▶) SLOW (VK-41 board S514)	(◀❚❚) FRAME RVS (VK-41 board S515)	(❚❚▶)FRAME FWD (VK-41 board S516)	
1D (KEY AD IN 2)	EDIT SEARCH + (HOLD DOWN) (ED-44 board S101)	EDIT SEARCH + (ED-44 board S101)	EDIT SEARCH - (HOLD DOWN) (ED-44 board S100)	EDIT SEARCH - (ED-44 board S100)		
1E (KEY AD IN 3)	MENU (VK-41 board S501)	(∧) MENU UP (VK-41 board S502)	(∨)MENU DOWN (VK-41 board S503)	EXECUTE (VK-41 board S512)		
1F (KEY AD IN 4)	WHITE BALANCE (FS-78 board S601)	FADER/OVERLAP (FS-78 board S602)	CP CHECK (FS-78 board S604)	FOCUS. INFINITY (FI 4520 board)	FOCUS AUTO (FI 4520 board)	FOCUS MANU (FI 4520 board)
20 (KEY AD IN 5)	ZERO SET MEMORY (FK-68 board S414)			DIGITAL MODE OVERLAP (FK-68 board S417)		DIGITAL MODE ZOOM (FK-68 board S417)
21 (KEY AD IN 6)				AUTO LOCK ON (AM-38 board S004)	AUTO LOCK OFF (AM-38 board S004)	

[ ] : NTSC MODEL

Operating procedure:

Order	Page	Address	Data	Procedure
1	0	FF	00	Set the data.
2	2	1B to 21		The pressed key can be known from the displayed data of each address.

3-2-7. LCD display check (FK-68 board)

Order	Page	Address	Data	Procedure
1	2	0B	10	After setting the data and press the PAUSE button. (Note 1)
2				Check that all of the TALLY LEDs (front, rear and inside EVF) and audio peak LED, light
3	2	0B	08	After setting the data and press the PAUSE button
4				Check that all of the TALLY LEDs (front, rear and inside EVF) and audio peak LED, are extinguished.
5	2	0B	00	After setting the data and press the PAUSE button.
6	5	00		Read the data of this address and record it. (Note 2)
7	5	00	08	Set bit 3 of the data to "1", bit 6 to "0". After setting the data, press the PAUSE button.
8				All segments of the LCD illuminate.
9	5	00	40	Set bit 3 of the data to "0", bit 6 to "1". After setting the data, press the PAUSE button.
10				All segments of the LCD are turned off, except the residual BATT marking and the no tape marking.
11	5	00		Set the data which is read and recorded in step 6 to this address using the adjustment remote commander, and press the PAUSE button. (End)

Note 1 : This is to control the mode control.
Note 2 : This is to control the HI control.

3-2-8. Buzzer check

Order	Page	Address	Data	Procedure
1	2	25	01	After setting the data, press the PAUSE button.
2				Check that the buzzer of about 8kHz sounds.
3	2	25	02	After setting the data, press the PAUSE button.
4				Check that the buzzer of about 4kHz sounds.
5	2	25	03	After setting the data, press the PAUSE button.
6				Check that the buzzer of about 2kHz sounds.
7	2	25	00	After setting the data, press the PAUSE button. (End)

3-2-9. Use history check

Page 2	Address 39 to 3C

Address	Function		Remarks
39	Accumulated drum rotation time (BCD code)	Hour	10th digit and 1st digit of the accumulated time (decimal numbers)
3A		×100 Hour	1000th digit and 100th digit of the accumulated time (decimal numbers)
3B	Numbers of tape eject (BCD code)	times	
3C		×100 times	

How to use:

1) The record of use data is displayed at addresses : 39 to 3C on page 2.

Note : This data will be cleared when the button battery is removed (reset). Be sure to read the data before disassembling the set.

3-2-10. Oscillating frequency check (DD-75 board)

Purpose : Check the oscillating frequency of switching regulator.

Subject	Not required
Measurement Point	Q016 pin ④ and pin ⑤ on DD-75 board
Measuring Instrument	Frequency counter and oscilloscope
Specification Value	445 ± 30kHz

Adjustment procedure:

Order	Procedure
1	Confirm that the oscillating frequency satisfies the specification value.

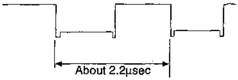


Fig. 6-3-5

3-2-11. Power supply voltage check (DD-75 board)

Mode	Camera record
Subject	Any Subject
Measuring Equipment	Digital voltmeter
INDI 3.0V check	
Measuring Point	CN001 pin ⑯ and ⑰ (CL006)
Specification Value	2.90 ± 0.11Vdc
J1 3.0V check	
Measuring Point	CN001 pin ⑲ and ⑳ (CL007)
Specification Value	2.90 ± 0.11Vdc
J2 3.0V check	
Measuring Point	CN001 pin ㉒ to ㉔ (CL008)
Specification Value	2.90 ± 0.11Vdc
SS 5.0V check	
Measuring Point	CN001 pin ㉖ and ㉗ (CL009)
Specification Value	4.75 ± 0.15Vdc
AUDIO 5.0V check	
Measuring Point	CN001 pin ㉙ (CL010)
Specification Value	4.75 ± 0.15Vdc
AUDIO 3.3V check	
Measuring Point	CN001 pin ㉛ (CL011)
Specification Value	3.10 ± 0.12Vdc
AUDIO 3.0V check	
Measuring Point	CN001 pin ㉝ (CL012)
Specification Value	2.90 ± 0.11Vdc
SS 15V check	
Measuring Point	CN001 pin ㉟ (CL013)
Specification Value	15.00 ± 0.50Vdc
SS 3.3V check	
Measuring Point	CN001 pin ㊲ (CL014)
Specification Value	3.20 ± 0.12Vdc
EVF 5.0V, VIDEO 5.0V check	
Measuring Point	CN002 pin ④ and ⑧ (CL015)
Specification Value	4.75 ± 0.15Vdc
MAGIC 3.3V check	
Measuring Point	CN002 pin ⑰ and ⑱ (CL016)
Specification Value	3.10 ± 0.12Vdc

CAM 3.3V check	
Measuring Point	CN002 pin ⑳ and ㉑ (CL017)
Specification Value	3.20 ± 0.12Vdc
CAM D5.0V check	
Measuring Point	CN002 pin ㉕ and ㉖ (CL019)
Specification Value	4.90 ± 0.15Vdc
CAM 5.0V check	
Measuring Point	CN002 pin ㉗ to ㉙ (CL020)
Specification Value	4.90 ± 0.15Vdc
CCD –8.5V check	
Measuring Point	CN002 pin ㉜ (CL021)
Specification Value	–8.50 ± 0.50Vdc
CCD 15V check	
Measuring Point	CN002 pin ㉝ and ㉞ (CL022)
Specification Value	15.00 ± 0.50Vdc
VAP 5.0V check	
Measuring Point	CN002 pin ㊲ (CL024)
Specification Value	5.00 ± 0.15Vdc
CAM MT 5.0V check	
Measuring Point	CN002 pin ㊳ (CL025)
Specification Value	5.00 ± 0.15Vdc
RP 3.3V check	
Measuring Point	CN002 pin ② (CL027)
Specification Value	3.20 ± 0.12Vdc
RP 5.0V check	
Measuring Point	CN003 pin ⑤ (CL028)
Specification Value	4.75 ± 0.15Vdc
RP 3.0V check	
Measuring Point	CN003 pin ⑩ (CL029)
Specification Value	2.90 ± 0.11Vdc
RP 6.6V check	
Measuring Point	CN003 pin ⑨ and ⑪ (CL030)
Specification Value	6.30 ± 0.25Vdc
EVER 3.2V check	
Measuring Point	IC500 pin ⑥ (CL512)
Specification Value	3.20 ± 0.14Vdc

Note : Setting the VTR&CAM mode ON. (See pege 6-76)

3-3. SYSTEM CONTROL SYSTEM ADJUSTMENT

3-3-1. Initialization of Page D

If the D page data is deleted by some reasons, input the initial values of the D page data, then start adjustment. Refer to "Page D address list" on page 6-84.

Mode	STOP
Signal	Any signal
Adjustment Page	D
Adjustment Address	00 to 53

Adjustment procedure:

Order	Procedure
1	Set the data : 01 to address : 00 on page : 1.
2	Select the page D, and input the initial value to each address. (After setting the data (initial values), be sure to press the PAUSE button of the adjustment remote commander before changing each address.)
3	Set the data : 00 to address : 00 on page : 1.

3-3-2. Initialization of Page C data

Note : If the C page data initialization is performed, all adjustments of the RF block and "Switching position adjustment" of the SERVO SYSTEM ADJUSTMENT must be performed again.

Mode	STOP
Adjustment Page	C
Adjustment Address	00 to 6F

Adjustment procedure:

Order	Procedure
1	Set the data : 01 to address : 00 on page : 1.
2	Set the data : 01 to address : 02 on page : 4 and press the PAUSE button of the adjustment remote commander.
3	Confirm that the data of the address : 02 on page : 4 changes in the order of "01" → "03" → "05" → "00". The data from address : 00 to address : 6F on page : C are updated to the initial data.
4	Set the data : 00 to address : 00 on page : 1.

Note : Recording the data of page : C by taking note, is recommended before initializing the page : C.

3-3-3. Page D address list

Note 1 : The initial value of the adjustment data is the data immediately after execution of Page D data initialization, and Page D data modification. They are different from the value after all adjustments are executed.

Note 2 : When the arrow mark ← is shown in the memo column of the adjustment data, it indicates that the data of that address is the fixed data (fixed to the initial value).

Address	Adjustment Data	
	Initial Value	Memo Column
00	00	←
01	00	←
02	50	←
03	00	←
04	00	←
05	00	←
06	6D	←
07	72	←
08	80	←
09	89	←
0A	8E	←
0B	75	←
0C	08	←
0D	00	←
0E	00	←
0F	06	←
10	00	←
11	52 : NTSC, C4 : PAL	←
12	68	←
13	1C	←
14	0E : NTSC, 0C : PAL	←
15	00	←
16	21	←
17	25	←
18	19	←
19	82	←
1A	54	←
1B	34	←
1C	28	←
1D	26	←
1E	00	←
1F	11	←
20	65	←
21	43	←
22	65 : NTSC, F8 : PAL	←
23	43 : NTSC, 3F : PAL	←
24	72	←
25	00	←
26	FF	←
27	FF	←
28	FF	←
29	00	←
2A	80	←
2B	40	←

Table. 6-3-1 (1)

Address	Adjustment Data	
	Initial Value	Memo Column
2C	01	←
2D	01	←
2E	00	←
2F	00	←
30	00	←
31	08	←
32	00	←
33	46	←
34	28 : NTSC, 22 : PAL	←
35	3A : NTSC, 21 : PAL	←
36	52 : NTSC, 46 : PAL	←
37	8E : NTSC, 7A : PAL	←
38	00	←
39	80	←
3A	6D	←
3B	72	←
3C	7F	←
3D	89	←
3E	8E	←
3F	77	←
40	07	←
41	04	←
42	—	
43	—	
44	—	
45	—	
46	—	
47	—	
48	D0	
49	7C	
4A	B3	
4B	00	
4C	D4	
4D	6D	
4E	9D	
4F	9D	
50	3E	
51	7C	
52	5C	
53	FF	

Table. 6-3-1 (2)

3-3-4. ID board threshold level adjustment (JC-15 board)

Mode	STOP
Adjustment Page	D
Adjustment Address	2A, 2B

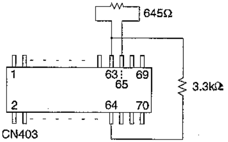


Fig. 6-3-6

Connection :Eject a cassette and perform the following connection.

1) Connect CN403 pin (65) (CL473 : CHIME SDA) with GND (CL531, etc.) using a resistor of 645Ω (accuracy ± 1%).
   Fabricate a resistor of 645Ω as follows :
   645Ω = 620Ω + 15Ω +10Ω
   620Ω resistor (1-215-416-00)
   15Ω resistor (1-215-377-00)
   10Ω resistor (1-215-373-31)

2) Connect CN403 pin (64) (CL474 : CHIME SCK) with GND (CL531, etc.) using a resistor of 3300Ω (accuracy ± 1%).
   3300Ω resistor (1-215-433-00)

Operating procedure:

Order	Page	Address	Data	Procedure
1	1	00	01	Set the data. (Preparation)
2	5	00	10	After setting the data, press the PAUSE button.
3	5	07		Read the data of address : 07 on page : 5. Take this value as D_{07}. (D_{07} is in the range from "10" to "54".)
4	D	2B		Set the data D_{07} to this address and press the PAUSE button .
5	5	08		Read the data of address : 08 on page : 5. Take this value as D_{08}. (D_{08} is in the range from "60" to "9D".)
6	D	2A		Set the data D_{08} to this address and press the PAUSE button.
7	5	00	30	After setting the data, press the PAUSE button.
8	1	00	00	Set the data. (END)

3-3-5. Battery down adjustment

Purpose : Set the battery end voltage.

Adjustment error : If the voltage is incorrect, the remainder of the battery will be shorter. The image at the battery end will also lose sync.

Mode	Camera record
Signal	any
Measurement Point	LCD display of the adjustment remote control unit.
Measuring Instrument	
Adjustment Page	D
Specified Value	07 to 0B, 3A to 3F

Switch setting

1) FOCUS switch (FI4520 board) .... MANUAL

Connection:

1) Connect the regulated power supply and the digital voltmeter to the battery terminal as shown in Fig. 6-3-7.

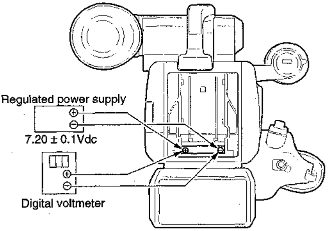


Fig. 6-3-7

Adjustment procedure:

Order	Page	Address	Data	Procedure
1				Adjustment the output voltage of the regulated power supply so that the display is 7.20 ± 0.1 Vdc.
2				Load a cassette, and set the unit to the camera recording mode.
3	1	00	01	Set the data. (Preparation)
4				Decrease the output voltage of the regulated power supply so that the digital voltmeter display is 5.80 ± 0.05 Vdc.
5	2	1A		Read the adjusting remote commander display data, and this data is named Dref.
6				Convert the data Dref into the decimal numbers. The result decimal number is Dref '. (Use page 6-37 (How to convert the hexadecimal number to decimal number) "Hexadecimal-Decimal Conversion Table".)
7				Calculate the difference between the data and the reference value using ΔDref ' the following equation. $\Delta Dref' = Dref' - 109$
8				Calculate the following equations (decimal number calculation) using Dref ' for each address.
		07		Address 07 $D_{07}' = \Delta Dref' + 114$
		08		08 $D_{08}' = \Delta Dref' + 128$
		09		09 $D_{09}' = \Delta Dref' + 137$
		0A		0A $D_{0A}' = \Delta Dref' + 142$
		0B		0B $D_{0B}' = \Delta Dref' + 117$
	D	3A		3A $D_{3A}' = \Delta Dref' + 109$
		3B		3B $D_{3B}' = \Delta Dref' + 114$
		3C		3C $D_{3C}' = \Delta Dref' + 127$
		3D		3D $D_{3D}' = \Delta Dref' + 137$
		3E		3E $D_{3E}' = \Delta Dref' + 142$
		3F		3F $D_{3F}' = \Delta Dref' + 119$
				Convert the above eleven decimal numbers to the eleven hexadecimal numbers. Set the hexadecimal data to each address and press PAUSE each time.
9	1	00	00	Set the data. (End)

3-4. SERVO SYSTEM ADJUSTMENTS

3-4-1. Switching position adjustment (RS-73 board)

Purpose: Removes the mechanical error of head assembly by electronic means.

Adjustment error: Skew picture

Mode	VTR playback
Signal	SW/OL alignment tape (XH2-3S)
Measurement Point	Display data at address : 08 and address : 09 of page : 3 and oscilloscope
Measuring Instrument	CH-1 : CN775 pin ① (RF MONTR) (Note 1) CH-2 : CN775 pin ⑥ (JSWP J) TRIG : CH-2
Adjustment Page	C
Adjustment Address	4C to 4F
Specification Value	T1 = 141μsec, T2 = 141μsec

Note 1 : Connect a 75Ω resistor between CN775 pin ① and pin ②.
75Ω resistor (1-247-804-11)

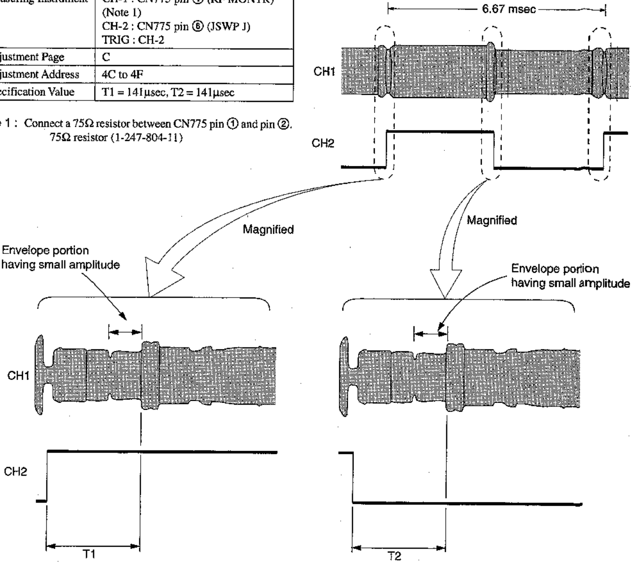

6.67 msec
CH1
CH2
Magnified
Magnified
Envelope portion having small amplitude
Envelope portion having small amplitude
CH1
CH2
T1
T2

Fig. 6-3-8

Adjustment procedure:

Order	Page	Address	Data	Procedure
1	1	00	01	Set the data. (Preparation)
2	3	01	03	After setting the data, press the PAUSE button.
3	C	4C to 4F	00	Write data : 00 to address : 4C to 4F on page : C. (To write the data, press the PAUSE button of the adjustment remote commander every time when data is set.)
4	C	4C		Change the data of address : 4C on page : C until T1 satisfies the specification value of 141 µsec. Press the PAUSE button. (Note 2) (Note 3)
5	3	08		Read the displayed data of address : 08 on page : 03 several times. Take the average value which is named D_{08}. Take any of the following measures depending upon the D_{08} value : [When D_{08} value is in the range from "80" to "FF"] Calculate the correction value, and deduct it from the data of the address : 4C on page : C. (To write the data, press the PAUSE button of the adjustment remote commander after data is changed.) Correction value = FF – D_{08} value (Hexadecimal calculation. Refer to the conversion table between D_{08}/D_{09} and correction value at nearly end of this adjustment item.) [When D_{08} value is in the range from "00" to "7E"] Add D_{08} to the data of address : 4C of page : C. (To write the data, press the PAUSE button of the adjustment remote commander after data is changed.) [When D_{08} value is "7F"] Repeat this adjustment from step 4 of this adjustment. (Note 2)
6	3	08		Observe the displayed data of address : 08 on page : 3. Confirm that the value in the range from "F8" to "FF" and the value in the range of "00" to "08" appear alternately and equally. (In the case if the data changes rapidly so that the lower two digits cannot be read, check that numbers "0" and "F" appear alternately and equally in the upper digits. If they do not, repeat adjustment from step 4.)
7	C	4E		Change the data of address : 4E on page : C until T2 satisfies the specification value of 141 µsec. Press the PAUSE button.
8				Read the displayed data of address : 09 on page : 03 several times. Take the average value which is named D_{09}. Take any of the following measures depending upon the D_{09} value : [When D_{09} value is in the range from "80" to "FF"] Calculate the correction value, and deduct it from the data of the address : 4E on page : C. (To write the data, press the PAUSE button of the adjustment remote commander after data is changed.) Correction value = FF – D_{09} value (Hexadecimal calculation. Refer to the conversion table between D_{08}/D_{09} and correction value at nearly end of this adjustment item.) [When D_{09} value is in the range from "00" to "7E"] Add D_{09} to the data of address : 4E of page : C. (To write the data, press the PAUSE button of the adjustment remote commander after data is changed.) [When D_{09} value is "7F"] Repeat step 7 of this switching position adjustment again because "7F" is caused by adjustment error. (Note 2)
9	3	09		Observe the displayed data of address : 09 on page : 3. Confirm that the value in the range from "F8" to "FF" and the value in the range of "00" to "08" appear alternately and equally. (In the case if the data changes rapidly so that the lower two digits cannot be read, check that numbers "0" and "F" appear alternately and equally in the upper digits. If they do not, repeat adjustment from step 7.)

Note 2 : When the displayed data remains unchanged at "7F" even through the adjustment is repeated several times, perform section "3-5-1. RF block adjustment" of "3-5. VIDEO SYSTEM ADJUSTMENT", then repeat the "3-4-1. Switching position adjustment".
If the displayed data remains unchanged at "7F", and adjustments do not work, IC774 may be defective.

Note 3 : If T1 does not satisfy the specification value even though the data of address : 4C is changed, change the data of address : 4D too.

Conversion table between D_{08}/D_{09} and correction value:

D_{08} or D_{09}	FE	FD	FC	FB	FA	F9	F8	F7F	F6	F5	F4	F3	F2	F1	F0
Correction value (hexadecimal number)	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F

Processing after adjustment:

Order	Page	Address	Data	Procedure
1	3	01	00	After setting the data, press the PAUSE button.
2	1	00	00	Set the data. (End)

3-5. VIDEO SYSTEM ADJUSTMENTS

3-5-1. RF block adjustment (RS-73 board)

1. Record current adjustment/ frequency response check

Mode	VTR stop
Measurement Point	For odd channel adjustment : CH-1 : CN771 pin ⑤ (CL816) CH-2 : CN771 pin ⑥ (CL815) For even channel adjustment : CH-1 : CN771 pin ⑧ (CL813) CH-2 : CN771 pin ⑨ (CL812)
Measuring Instrument	Oscilloscope ADD mode CH-2 INV mode
Adjustment Page	C
Adjustment Address	3E, 3F
Specification Value	A = 3.1 ± 0.1Vp-p

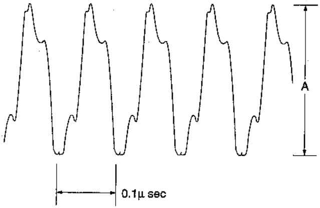


Fig. 6-3-9

Connection :

Remove CN771 and perform the following connection.

1) For odd channel adjustment, connect a resistor of 180Ω between CN771 pin ⑤ (CL816) and CN771 pin ⑥ (CL815).
2) For even channel adjustment, connect a resistor of 180Ω between CN771 pin ⑧ (CL813) and CN771 pin ⑨ (CL812).
   180Ω resistor (Sony part code : 1-249-408-11)

Adjustment procedure:

Order	Page	Address	Data	Procedure
1				Calibrate the VERT gain of CH-1 and CH-2 of an oscilloscope for unity gain. Set the scope to ADD mode. Set CH-2 to INV mode.
2	1	00	01	Set the data. (Preparation)
3	3	01	0C	After setting the data, press the PAUSE button.
4	3	34	85	After setting the data, press the PAUSE button.
5	C	3F 3E		Change the following data until the signal voltage "A" satisfies the specification value and press the PAUSE button. For odd channel : Address : 3F on page C For even channel : Address : 3E on page C.
6	3	34	84	After setting the data, press the PAUSE button.
7				Check that the signal voltage "A" of odd and even channels satisfies the specification value.

Processing after Adjustments:

Order	Page	Address	Data	Procedure
1	3	34	80	After setting the data, press the PAUSE button.
2	3	01	00	After setting the data, press the PAUSE button.
3	C	5C	00	After setting the data, press the PAUSE button.
4	1	00	00	Set the data. (End)

2. PLL fo adjustment (RS-73 board)

Mode	VTR stop
Measurement Point	The displayed data of address : 04 on page : 3
Measuring Instrument	
Adjustment Page	C
Adjustment Address	3D, 3C
Specification Value	The displayed data is in the range from "FD" to "FF", or in the range from "00" to "03". ("FF" and "00" are the center values.)

Adjustment procedure:

Order	Page	Address	Data	Procedure
1	1	00	01	Set the data. (Preparation)
2	3	01	05	After setting the data, press the PAUSE button.
3	3	36	0E	After setting the data, press the PAUSE button.
4	3	04		Take reading of the displayed data of address : 04 on page : 3 several times and take the average value which is taken as D_{04}. Confirm that D_{04} is in the range from "FD" to "FF" or from "00" to "03".
5	C	3C		If D_{04} is not in the specified range in step 4, adjust the data of address : 3C on page : C as follows and check the result again. [When D_{04} is in the range from "80" to "FC"] Decrease the data of address : 3C on page : C. (To write the data, press the PAUSE button of the adjustment remote commander after data is changed.) [When D_{04} is in the range from "04" to "7F"] Increase the data of address : 3C on page : C. (To write the data, press the PAUSE button of the adjustment remote commander after data is changed.)
6	3	36	0F	After setting the data, press the PAUSE button.
7	3	04		Confirm that the average data D_{04} of address : 04 on page : 3 is in the range from "FD" to "FF" or from "00" to "03".
8	C	3D		If D_{04} is not in the specified range in step 7, adjust the data of address : 3D on page : C as follows and check the result again. [When D_{04} is in the range from "80" to "FC"] Decrease the data of address : 3D on page : C. (To write the data, press the PAUSE button of the adjustment remote commander after data is changed.) [When D_{04} is in the range from "04" to "7F"] Increase the data of address : 3D on page : C. (To write the data, press the PAUSE button of the adjustment remote commander after data is changed.)

Processing after Adjustments:

Order	Page	Address	Data	Procedure
1	3	01	00	After setting the data, press the PAUSE button.
2	3	36	04	After setting the data, press the PAUSE button.
3	1	00	00	Set the data. (End)

3. CLK DELAY adjustment (RS-73 board)

Mode	Camera record/playback
Subject	Any Subject
Signal	Playback signal of a pre-recorded tape
Measurement Point	CH-1 : CN775 pin ⑧ (ERRP) CH-2 : CN775 pin ⑥ (JSWP J)
Measuring Instrument	Oscilloscope Triggered from : CH-2
Adjustment Page	C
Adjustment Address	47

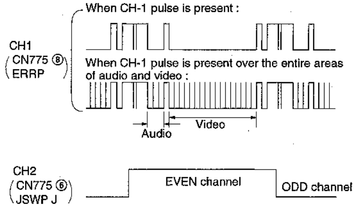

When CH-1 pulse is present :
CH1
CN775 ⑧
ERRP
When CH-1 pulse is present over the entire areas of audio and video :
Audio
Video
CH2
CN775 ⑥
JSWP J
EVEN channel
ODD channel

Fig. 6-3-10 (1)

[Actual waveform]

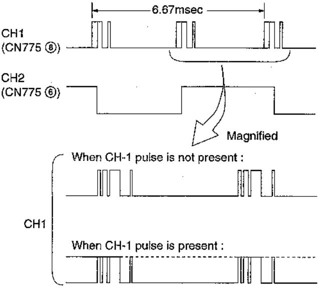

6.67msec
CH1
(CN775 ⑧)
CH2
(CN775 ⑥)
Magnified
When CH-1 pulse is not present :
CH1
When CH-1 pulse is present :

Fig. 6-3-10 (2)

Adjustment procedure:

Order	Page	Address	Data	Procedure
1				Record any camera picture for about two minutes on any tape.
2	1	00	01	Set the data. (preparation)
3	C	40	C0	After setting the data, press the PAUSE button.
4	C	41	C0	After setting the data, press the PAUSE button.
5	C	42	90	After setting the data, press the PAUSE button.
6	C	43	90	After setting the data, press the PAUSE button.
7	C	47	F0	After setting the data, press the PAUSE button.
8	C	4B	8E	After setting the data, press the PAUSE button.
9	C	5A	00	After setting the data, press the PAUSE button.
10				Playback the segment of a tape which is recorded in step 1.
11	C	47		Increase the data and read the data D_1 when the CH-1 data appears over the entire areas of audio and video.
12	C	47		Decrease the data and read the data D_2 when the CH-1 data appears over the entire areas of audio and video.
13				Obtain the average value between D_1 and D_2, and take it as D_3.
14	C	47		Set D_3 to this address and press the PAUSE button.
15	C	4B	0E	After setting the data, press the PAUSE button.
16	C	5A	84	After setting the data, press the PAUSE button.
17	1	00	00	Set the data. (End)

Processing after Adjustments:

- Perform "6. AEQ adjustment" after this adjustment is completed.

4. AGC center level adjustment (RS-73 board)

Mode	Camera record/playback
Subject	Any Subject
Signal	Playback signal of a pre-recorded tape
Measurement Point	CH-1 : CN775 pin ⑧ (ERRP) CH-2 : CN775 pin ⑥ (JSWP J)
Measuring Instrument	Oscilloscope Triggered from : CH-2
Adjustment Page	C
Adjustment Address	44

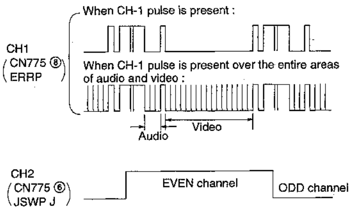

When CH-1 pulse is present :
CH1
CN775 ⑧
ERRP
When CH-1 pulse is present over the entire areas of audio and video :
Audio
Video
CH2
CN775 ⑥
JSWP J
EVEN channel
ODD channel

Fig. 6-3-11 (1)

[Actual waveform]

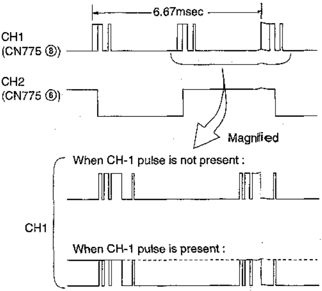

6.67msec
CH1
(CN775 ⑧)
CH2
(CN775 ⑥)
Magnified
When CH-1 pulse is not present :
CH1
When CH-1 pulse is present :

Fig. 6-3-11 (2)

Adjustment procedure:

Order	Page	Address	Data	Procedure
1				Record any camera picture for about two minutes on any tape.
2	1	00	01	Set the data. (Preparation)
3	C	40	C0	After setting the data, press the PAUSE button.
4	C	41	C0	After setting the data, press the PAUSE button.
5	C	42	90	After setting the data, press the PAUSE button.
6	C	43	90	After setting the data, press the PAUSE button.
7	C	44	60	After setting the data, press the PAUSE button.
8	C	4B	8E	After setting the data, press the PAUSE button.
9	C	5A	00	After setting the data, press the PAUSE button.
10				Playback the segment of a tape which is recorded in step 1.
11	C	44		Increase the data and read the data D_1 when the CH-1 data appears over the entire areas of audio and video.
12	C	44		Decrease the data and read the data D_2 when the CH-1 data appears over the entire areas of audio and video.
13				Obtain the average value between D_1 and D_2, and take it as D_3.
14	C	44		Set D_3 to this address and press the PAUSE button.
15	C	4B	0E	After setting the data, press the PAUSE button.
16	C	5A	84	After setting the data, press the PAUSE button.
17	1	00	00	Set the data. (End)

Processing after Adjustments:

- Perform "6. AEQ adjustment" after this adjustment is completed.

5. PLL capture range adjustment (RS-73 board)

Mode	Camera record/playback
Subject	Any Subject
Signal	Playback signal of a pre-recorded tape
Measurement Point	CH-1 : CN775 pin ⑧ (ERRP) CH-2 : CN775 pin ⑥ (JSWP J)
Measuring Instrument	Oscilloscope Triggered from : CH-2
Adjustment Page	C
Adjustment Address	46

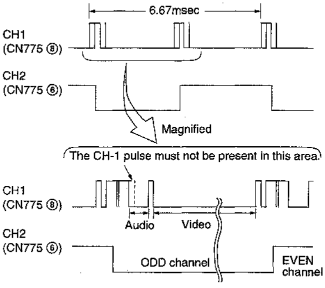


Fig. 6-3-12

Adjustment procedure:

Order	Page	Address	Data	Procedure
1				Record any camera picture for about two minutes on any tape.
2	1	00	01	Set the data. (Preparation)
3	C	4B	8E	After setting the data, press the PAUSE button.
4	C	5A	00	After setting the data, press the PAUSE button.
5				Playback the segment of a tape which is recorded in step 1.
6	C	46	80	After setting the data, press the PAUSE button.
7	C	46	60	After setting the data, press the PAUSE button
8				Confirm that the pulse is not present at the top of audio area of odd channel of the CH-1 ERRP waveform on an oscilloscope.
9	C	46	A0	After setting the data, press the PAUSE button.
10				Confirm that the pulse is not present at the top of audio area of odd channel of the CH-1 ERRP waveform on an oscilloscope. When the steps 8 and 9 are confirmed, proceed to step 15.
11	C	46		If pulse is present in steps 8 and 9, increase the data from "80" and read the data D_1 when pulse starts to appear at the top of the audio area of the CH-1 data.
12	C	46		Decrease the data from "80" and read the data D_2 when pulse starts to appear at the top of the audio area of the CH-1 data.
13				Obtain the average value between D_1 and D_2, and take it as D_3.
14	C	46		Set D_3 to this address and press the PAUSE button.
15	C	4B	0E	After setting the data, press the PAUSE button.
16	C	5A	84	After setting the data, press the PAUSE button.
17	1	00	00	Set the data. (End)

6. AEQ adjustment (RS-73 board)

Mode	Camera record/playback
Subject	Any Subject
Measurement Point	CN775 pin ① (RF MONTR)
Measuring Instrument	Oscilloscope
Adjustment Page	C
Adjustment Address	40, 41, 42, 43, 5A

Adjustment procedure:

Order	Page	Address	Data	Procedure
1				Record any Subject for about one minute from the tape top.
2	1	00	01	Set the data. (Preparation)
3	C	4B	8E	After setting the data, press the PAUSE button.
4	C	5A	00	After setting the data, press the PAUSE button.
5	C	40	C0	After setting the data, press the PAUSE button.
6	C	41	C0	After setting the data, press the PAUSE button.
7	C	42	90	After setting the data, press the PAUSE button.
8	C	43	90	After setting the data, press the PAUSE button.
9	C	5C	EC	After setting the data, press the PAUSE button.
10				Rewind the tape and play it back from the tape top.
11	3	01	07	After RF envelope waveform is stabilized, set the data: 07 to this address and press the PAUSE button.
12	3	02		When about 20 to 30 seconds have elapsed after the PAUSE button is pressed, confirm that the data of address : 02 on page : 3 changes from "07" to "00".
13	3	03		Confirm that the address : 03 on page : 3 shows the following data. When "00" : Normal When "01" : Even channel is defective. When "02" : ODD channel is defective. When "03" : Even and ODD channels are defective. Only when "00" appears, proceed to the next step.
14	3	04 05 06 07		Read the data of the addresses : from 04 to 07 on page : 3. Take them as D_{04}, D_{05}, D_{06} and D_{07}.
15	C	40		Set D_{04} to this address and press the PAUSE button.
16	C	42		Set D_{05} to this address and press the PAUSE button.
17	C	41		Set D_{06} to this address and press the PAUSE button.
18	C	43		Set D_{07} to this address and press the PAUSE button.
19	C	5A	84	After setting the data, press the PAUSE button.
20	C	4B	0E	After setting the data, press the PAUSE button.
21	C	5C	00	After setting the data, press the PAUSE button.

Processing after Adjustments:

Order	Page	Address	Data	Procedure
1	1	00	00	Set the data. (End)

3-5-2. Base band block adjustment

1. EVR data preset

Mode	VTR stop
Adjustment Page	D
Adjustment Address	48, 4A, 50, 51, 52, 53

Adjustment procedure:

Order	Page	Address	Data	Procedure
1	1	00	01	Set the data. (Preparation)
2	D	48	D0	Set data to each address and press the PAUSE button after each setting.
		4A	B3	
		50	3E	
		51	7C	
		52	5C	
		53	FF	
3	1	00	00	Set the data. (End)

2. AFC fo adjustment (CB-54 board)

Mode	Camera standby
Measurement Point	IC205 pin ⑨ (CL252) GND : CL215 (IC204 pin ㉗)
Measuring Instrument	Digital voltmeter
Adjustment	CT202
Specification Value	1.50 ± 0.05Vdc

Note : Confirm that pins from ㉚ to ㉜ on CN202 on the CB-54 board are in the following statuses :

Pin ㉚ (REC/PB) : "H" = 3 V
Pin ㉛ (CAM/LINE) : "L"= 0 V
Pin ㉜ (EXT/INT) : "H" = 3 V

Adjustment procedure:

Order	Procedure
1	Adjust CT202 until the DC voltage satisfies the specification.

3. NPS fo adjustment (CB-54 board)

Mode	STOP (VTR mode)
Measurement Point	IC204 pin ㉖ (CL216) GND : CL215 (IC204 pin ㉗)
Measuring Instrument	Frequency counter
Adjustment	CT201
Specification Value	f = 14318180 ± 120Hz (NTSC model) f = 17734476 ± 120Hz (PAL model)

Note 1 : Insert the plug to VIDEO OUT terminal.
Note 2 : Connect pin ⑬ of CN002 and pin ㉝ of CN202.

Adjustment procedure:

Order	Procedure
1	Adjust CT201 until the frequency satisfies the specifications value.

4. D/A V Reference adjustment (CB-54 board)

Mode	Camera standby
Measurement Point	IC290 pin ㉞ (CL295) GND : CL291 (CN202 pin (69))
Measuring Instrument	Digital voltmeter
Adjustment Page	D
Adjustment Address	50
Specification Value	1.20 ± 0.02Vdc

Adjustment procedure:

Order	Page	Address	Data	Procedure
1	1	00	01	Set the data. (Preparation)
2	D	50	3E	After setting the data, press the PAUSE button.
3	D	50		Change the data until the output voltage satisfies the specification value.
4				Press the PAUSE button.
5	1	00	00	Set the data. (End)

5. S-Y output sync level adjustment (CB-54 board)

Purpose : Set the sync signal output level.
Adjustment error : The picture will be brighter or darker on monitor.

Mode	Camera standby
Subject	Internal test pattern
Measurement Point	Y signal terminal of S VIDEO terminal (75Ω terminated)
Measuring Instrument	Oscilloscope
Adjustment Page	D
Adjustment Address	4D
Specification Value	A = 293 ± 6mVp-p (NTSC model) A = 307 ± 6mVp-p (PAL model)

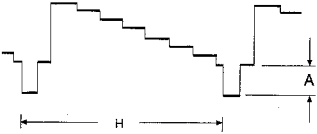


Fig. 6-3-13

Note : Insert the plug into the S video terminal.

Adjustment procedure:

Order	Page	Address	Data	Procedure
1	1	00	01	Set the data. (Preparation)
2	5	02	09	After setting the data, press the PAUSE button.
3	D	4D		Change the data until the sync signal level (A) satisfies the specification value.
4				Press the PAUSE button.
5	5	02	00	After setting the data, press the PAUSE button.
6	1	00	00	Set the data. (End)

6. S-Y output level adjustment (CB-54 board)

Purpose : Set the Y signal output level.
Adjustment error : The picture will be brighter or darker on monitor.

Mode	Camera standby
Signal	Internal test pattern
Measurement Point	Y signal terminal of S VIDEO terminal (75Ω terminated)
Measuring Instrument	Oscilloscope
Adjustment Page	D
Adjustment Address	4C
Specification Value	A = 550 ± 10mVp-p (NTSC model) A = 539 ± 10mVp-p (PAL model)

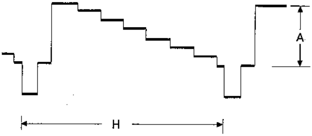


Fig. 6-3-14

Note : Insert the plug into the S video terminal.

Adjustment procedure:

Order	Page	Address	Data	Procedure
1	1	00	01	Set the data. (Preparation)
2	5	02	09	After setting the data, press the PAUSE button.
3	D	4C		Change the data until the Y signal level (A) satisfies the specification value.
4				Press the PAUSE button.
5	5	02	00	After setting the data, press the PAUSE button.
6	1	00	00	Set the data. (End)

7. S-C output chroma level adjustment (CB-54 board)

Purpose : Set the chroma signal output level.
Adjustment error : Color of the picture will be thicker or thinner on monitor.

Mode	Camera standby
Subject	Internal test pattern
Measurement Point	Chroma signal terminal of S VIDEO terminal (75Ω terminated)
Measuring Instrument	Oscilloscope
Adjustment Page	D
Adjustment Address	4F
Specification Value	A = 500 ± 10mVp-p (NTSC model) A = 487 ± 10mVp-p (PAL model)

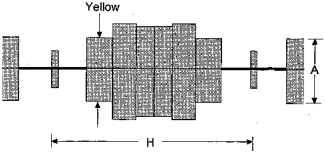


Fig. 6-3-15

Note : Insert the plug into the S video terminal.

Adjustment procedure:

Order	Page	Address	Data	Procedure
1	1	00	01	Set the data. (Preparation)
2	5	02	09	After setting the data, press the PAUSE button.
3	D	4F		Change the data until the yellow signal level (A) satisfies the specification.
4				Press the PAUSE button.
5	5	02	00	After setting the data, press the PAUSE button.
6	1	00	00	Set the data. (End)

8. S-C output burst level adjustment (CB-54 board)

Purpose : Set the burst signal output level.
Adjustment Error : Color of the picture will be thicker or thinner on monitor.

Mode	Camera standby
Subject	Internal test pattern
Measurement Point	Chroma signal terminal of S VIDEO terminal (75Ω terminated)
Measuring Instrument	Oscilloscope
Adjustment Page	D
Adjustment Address	49
Specification Value	A = 300 ± 6mVp-p (NTSC model) A = 315 ± 6mVp-p (PAL model)

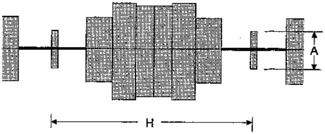


Fig. 6-3-16

Note : Insert the plug into the S video terminal.

Adjustment procedure:

Order	Page	Address	Data	Procedure
1	1	00	01	Set the data. (Preparation)
2	5	02	09	After setting the data, press the PAUSE button.
3	D	49		Change the data until the burst signal level (A) satisfies the specification.
4				Press the PAUSE button.
5	5	02	00	After setting the data, press the PAUSE button.
6	1	00	00	Set the data. (End)

9. Encoder R-Y input level adjustment (CB-54 board)

Purpose : Set the encoder balance.
Adjustment error : The encoder will have carrier leak and incorrect colorimetry

Mode	Camera standby
Subject	Internal test pattern
Measurement Point	Chroma signal terminal of S VIDEO terminal (75Ω terminated)
Measuring Instrument	Oscilloscope
Adjustment Page	D
Adjustment Address	4A
Specification Value	RED Gain : 95.0 ± 2% (NTSC model) (Note 3) 88.7 ± 2% (PAL model) (Note 3) RED Phase : 104 ± 2° (Note 4)

Note 1 : Insert the plug to the S video terminal.

Note 2 : The "7. S-C output chroma level adjustment" and "8. S-C output burst level adjustment" must have already been completed before.

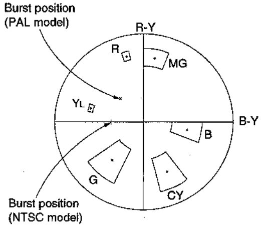


Fig. 6-3-17

Note 3 : When the burst gain has been set to 40%.

Note 4 : When the burst phase has been set to 180°. (NTSC model)
When the burst phase has been set to 135°. (PAL model)

Adjustment procedure:

Order	Page	Address	Data	Procedure
1	1	00	01	Set the data. (Preparation)
2	5	02	09	After setting the data, press the PAUSE button.
3	D	4A		Change the data to satisfy the specification.
4				Press the PAUSE button.
5	5	02	00	After setting the data, press the PAUSE button.
6	1	00	00	Set the data. (End)

Remarks : (Guide line of specification value.)
When using the PAL vectorscope, center values of specification correspond to the center of the specified range of each color.

In the NTSC vectorscope, the respective spots will be located outside the specified areas if the burst is used as reference.

10. Composite output level adjustment (CB-54 board)

Purpose : Set the composite signal output level.
Adjustment error : The picture will be brighter or darker on monitor.

Mode	Camera standby
Subject	Internal test pattern
Measurement Point	VIDEO terminal (75Ω terminated)
Measuring Instrument	Oscilloscope
Adjustment Page	D
Adjustment Address	4E
Specification Value	A = 843 ± 15mVp-p (NTSC model) A = 846 ± 15mVp-p (PAL model)

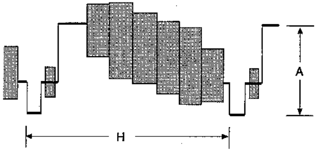


Fig. 6-3-18

Note : Insert the plug into the VIDEO terminal.

Adjustment procedure:

Order	Page	Address	Data	Procedure
1	1	00	01	Set the data. (Preparation)
2	5	02	09	After setting the data, press the PAUSE button.
3	D	4E		Change the data until the white (75%) signal level (A) satisfies the specification.
4				Press the PAUSE button.
5	5	02	00	After setting the data, press the PAUSE button.
6	1	00	00	Set the data. (End)

11. Encoder sharpness adjustment (CB-54 board)

Purpose : Set sharpness of the Y signal output level.
Adjustment error : Sharpness of the output picture is too much or too dull on monitor.

Mode	Camera standby
Subject	Any Subject
Measurement Point	CH-1 : IC294 pin ㉛ (CL323) GND : CL291 (CN202 pin (69)) CH-2 : Y signal terminal of the S VIDEO output terminal (75Ω terminated)
Measuring Instrument	Oscilloscope
Adjustment Page	D
Adjustment Address	53
Specification Value	A = 40 ± 5mVp-p

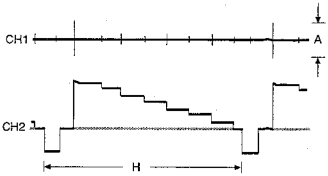


Fig. 6-3-19

Note : Insert the plug into the S video terminal.

Adjustment procedure:

Order	Page	Address	Data	Procedure
1	1	00	01	Set the data. (Preparation)
2	5	02	09	After setting the data, press the PAUSE button.
3	D	53		Change the data until the signal level (A) satisfies the specification.
4				Press the PAUSE button.
5	5	02	00	After setting the data, press the PAUSE button.
6	1	00	00	Set the data. (End)

12. EVF ZEBRA slice level adjustment/check

Mode	Camera standby
Measurement Point	Visual check on viewfinder
Measuring Instrument	
Adjustment Page	D
Adjustment Address	48
Specification Value	—

Adjustment procedure:

Order	Page	Address	Data	Procedure
1	1	00	01	Set the data. (Preparation)
2	5	02	05	After setting the data, press the PAUSE button.
3				Turn off the zebra function using the menu screen.
4	D	48	D0	After setting the data, press the PAUSE button.
5	D	50		Record the data of this address by taking note of it.
6	D	50	46:NTSC 49:PAL	After setting the data, press the PAUSE button.
7	D	48		Set the value which is smaller than the displayed data by "1", and press the PAUSE button.
8				Observe the viewfinder screen. [When the zebra pattern does not appear] Return to step 7 and perform step 7 again. [When the zebra pattern appears] Proceed to step 9.
9	D	50		Set the value which is recorded in step 5, and press the PAUSE button.
10	5	02	00	After setting the data, press the PAUSE button.
11	1	00	00	Set the data.

Check procedure:

Order	Page	Address	Data	Procedure
1	6	01	39	After setting the data, press the PAUSE button.
2				Turn on the zebra function from the menu display.
3				Check to see that the zebra pattern is displayed on either white or yellow portion on the color bar chart with the standard picture frame setting. However, if yellow is shot over entire picture frame, zebra must not appear.
4	6	01	00	After setting the data, press the PAUSE button.

3-5-3. JC core block board adjustment

1. 13.5 MHz crystal oscillator adjustment (JC-15 board)

Mode	Camera standby
Subject	Any Subject
Measurement Point	IC410 pin (93) (CL409) (FXCK) or AU-192 board CN916 pin ① (CLK135)
Measuring Instrument	Frequency counter
Adjustment Page	D
Adjustment Address	25
Specification Value	13500000 ± 600Hz

Order	Page	Address	Data	Procedure
1	1	00	01	Set the data. (Preparation)
2	D	02		Confirm that the data is "50".
3	2	2F		Read the data.
4	D	25		Set the data which is read in step 3, to this address, and press the PAUSE button.
5				Confirm that the oscillating frequency satisfies the specification.
6	1	00	00	Set the data. (End)

3-6. AUDIO SYSTEM ADJUSTMENT

3-6-1. Preparation

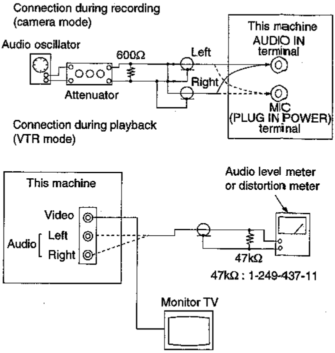
1. Switch setting

Set the switches to the following positions before starting the audio system adjustment.

AUTO LOCK (AM-38 board S004)	OFF
AUDIO MONITOR (FK-68 board S415)	MIX
SPEAKER (FK-68 board S402)	ON
AUDIO MODE (FK-68 board S401)	16 BIT
REC LEVEL (CH-1/CH-2) switch (FK-68 board S406, S407)	MANUAL
REC LEVEL CH-1/CH-2 (dial) (AU-192 board RV001, RV002)	Level "5"
MIC (MA-280 board S502)	OFF
BUILT-IN MIC (MA-280 board S501)	WIND
LINE/MIC (CH-1) (RJ-72 board S003)	R LINE
LINE/MIC (CH-2) (RJ-72 board S004)	R LINE
ATT (CH-1)	OFF
ATT (CH-2)	OFF

2. Connection of audio measuring equipment

Connect the audio measuring equipment as shown in Fig. 6-3-20.


Connection during recording (camera mode)

Connection during playback (VTR mode)

Audio oscillator
600Ω
Attenuator
Left
Right
This machine
AUDIO IN terminal
MIC (PLUG IN POWER) terminal
This machine
Video
Audio
Left
Right
Audio level meter or distortion meter
47kΩ
47kΩ : 1-249-437-11
Monitor TV

Fig. 6-3-20

3-6-2. Audio system adjustment.

1. Audio PLL VCO oscillating frequency check (AU-192 board)

Purpose : Check the audio PLL VCO oscillating frequency.

Mode	VTR PB (48 kHz PB)
Signal	Alignment playback
Measurement Point	IC802 pin ② (CL804) (MCLK) or IC011 pin ⑪
Measuring Instrument	Frequency counter
Specification Value	11.7 ± 0.6MHz

Note : Connect 2.3Vdc between C822 (CL805) and GND (C822 (CL806)).

Check procedure:

Order	Procedure
1	Confirm that the VCO oscillating frequency satisfies the specification value.

2. Oscillating frequency check (AU-192 board)

Purpose : Check the audio master clock frequency.

Mode	Camera mode record
Signal	—
Measurement Point	IC802 pin ② (CL804) (MCLK) or IC011 pin ⑪
Measuring Instrument	Frequency counter
Specification Value	12288.0 ± 0.3kHz

Check procedure:

Order	Procedure
1	Confirm that the audio master clock frequency satisfies the specification value.

3. Playback level check

Purpose : Check the playback level at each fs of 32kHz, 48kHz and 44.1kHz. Check also the de-emphasis characteristics at 44.1kHz.

Mode	VTR PB
Signal	Audio check reference tape (XH5-35 : NTSC, XH5-3PS : PAL)
Measurement Point	Right and left channels of audio output terminal
Measuring Instrument	Audio level meter and frequency counter
Specification Value	32kHz mode segment : 1kHz 2.2 ± 3dBs 48kHz mode segment : 1kHz 2.2 ± 3dBs 44.1kHz mode segment : The 7.35kHz signal level at emphasis ON is lower than that at emphasis OFF by –6 ± 2dBs.

Check procedure:

Order	Procedure
1	Confirm that the playback signal level satisfies the specification value.

4. EXT MIC input gain and L/R balance check

Purpose : Check gain of the EXT MIC system.

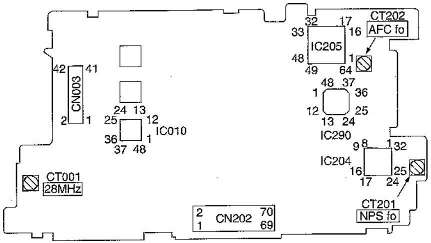
Mode	Camera mode record and playback
Signal	1kHz –56dBs signal : MIC (PLUG IN POWER) terminal left and right channels
Measurement Point	Audio output terminal, left and right channels
Measuring Instrument	Audio level meter
Specification Value	Output level of L and R channels = +2.2 ± 3dBs Level difference between L and R channels = 2dBs or less

Note : LINE/MIC (CH-1) switch (RJ-72 board S001) to F MIC position.
LINE/MIC (CH-2) switch (RJ-72 board S002) to F MIC position.

Check procedure:

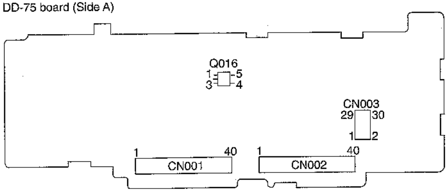
Order	Procedure
1	Input the 1kHz –56dBs signal to the MIC (PLUG IN POWER) terminal.
2	Start recording in camera mode.
3	Playback the recorded segment.
4	Confirm that the 1kHz signal level satisfies the specification value.
5	Confirm that the level difference between the L and R channels satisfies the specification value.

CB-54 board (Side A)



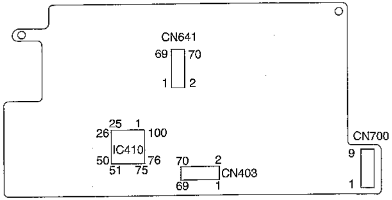
CT202
AFC fo
IC205
32
17
33
16
48
1
49
64
48
37
1
36
12
25
13
24
IC290
CN003
42
41
2
1
24
13
25
12
IC010
36
1
37
48
9
8
1
32
IC204
16
25
17
24
CT201
NPS fo
CT001
28MHz
2
CN202
70
1
69

DD-75 board (Side A)



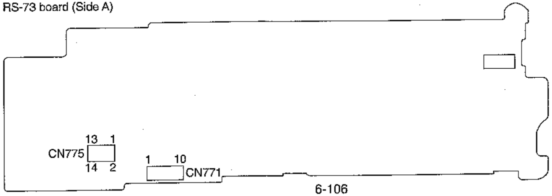
Q016
1
5
3
4
CN003
29
30
1
2
1
40
CN001
1
40
CN002

JC-15 board (Side A)



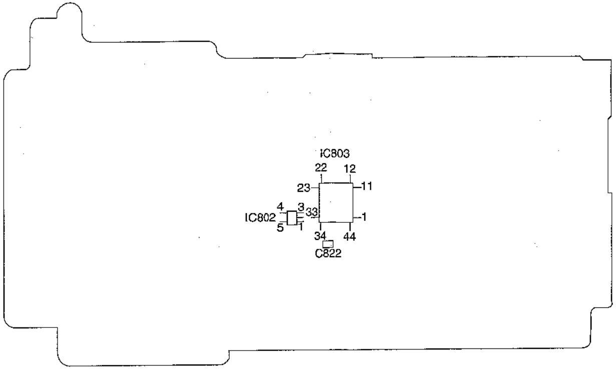
CN641
69
70
1
2
25
1
26
100
IC410
50
76
51
75
70
2
CN403
69
1
CN700
9
1

RS-73 board (Side A)



13
1
CN775
14
2
1
10
CN771

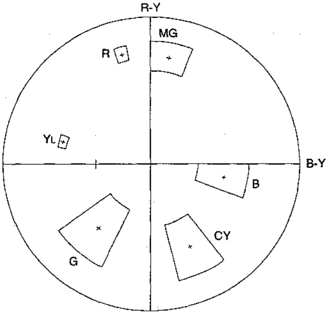
AU-192 board (Side A)



IC803
22
12
23
11
IC802
4
3
33
1
5
1
34
44
C822

FOR CAMERA COLOR REPRODUCTION ADJUSTMENT (NTSC MODEL)

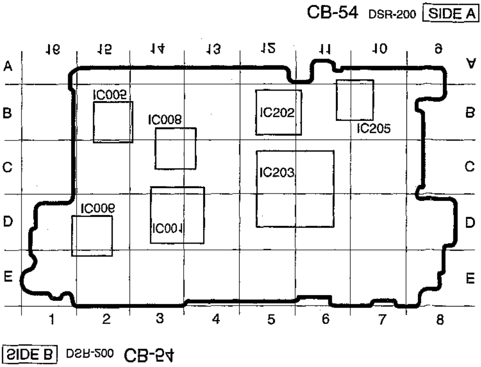
Take a copy of CAMERA COLOR REPRODUCTION FRAME and Parts referencesheets with a clear sheet for use.


R-Y
MG
R
YL
B-Y
B
CY
G

DSR-200

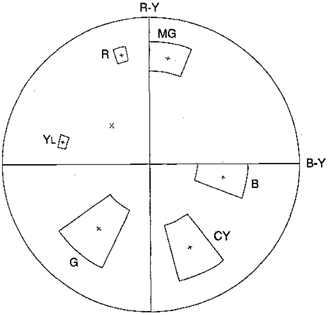
⟨PARTS REFERENCE SHEET⟩

You can find the parts position of location of mount locations applying to CB-54 board of a set.


CB-54 DSR-200 SIDE A
16
15
14
13
12
11
10
9
A
B
C
D
E
IC002
IC008
IC202
IC205
IC203
IC006
IC001
1
2
3
4
5
6
7
8
SIDE B DSR-200 CB-54

FOR CAMERA COLOR REPRODUCTION ADJUSTMENT (PAL MODEL)

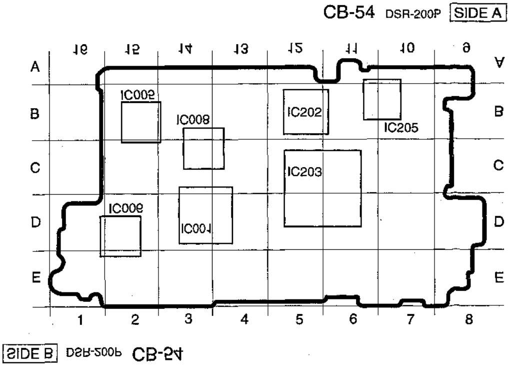
Take a copy of CAMERA COLOR REPRODUCTION FRAME and Parts referencesheets with a clear sheet for use.


R-Y
MG
R
YL
B-Y
B
CY
G

DSR-200P

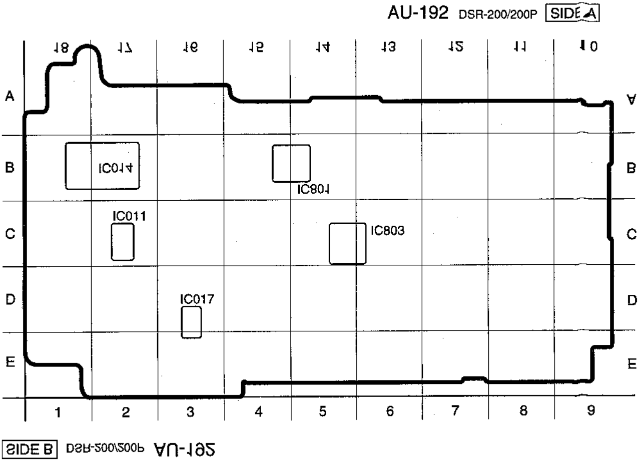
⟨PARTS REFERENCE SHEET⟩

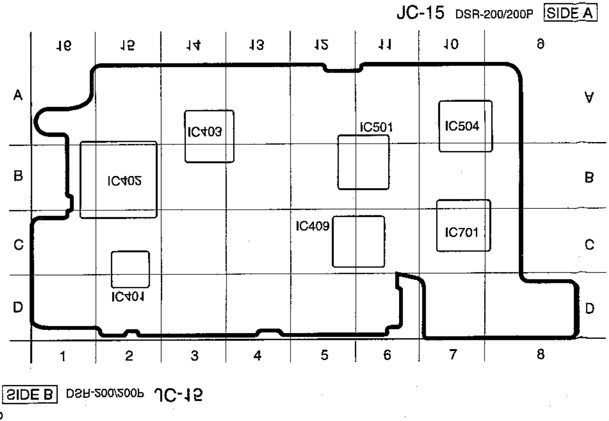
You can find the parts position of location of mount locations applying to CB-54 board of a set.


CB-54 DSR-200P SIDE A
16 15 14 13 12 11 10 9
A B C D E
1 2 3 4 5 6 7 8
IC005
IC008
IC202
IC205
IC203
IC006
IC001
SIDE B DSR-200P CB-54

⟨PARTS REFERENCE SHEET⟩

You can find the parts position of location of mount locations applying to AU-192 and JC-15 boards of a set.


AU-192 DSR-200/200P SIDE A
18
17
16
15
14
13
12
11
10
A
B
C
D
E
IC014
IC801
IC011
IC803
IC017
1
2
3
4
5
6
7
8
9
SIDE B DSR-200/200P AU-192


JC-15 DSR-200/200P SIDE A
16
15
14
13
12
11
10
9
A
B
C
D
IC403
IC501
IC504
IC402
IC409
IC701
IC401
1
2
3
4
5
6
7
8
SIDE B DSR-200/200P JC-15

DSR-200/200P

9-973-918-11

Sony Corporation
Personal A&V Products Company

96K1622-1

Published by Quality Engineering Dept.
(Osaki East)

DSR-200/200P

RMT-806/807

SONY

SERVICE MANUAL

US Model
Canadian Model
DSR-200
AEP Model
DSR-200P

CORRECTION-1

Correct your service manual as shown below.

(96-039)

(P6-42)

☛ : Points deleted parts. ▨ : Points changed parts.

2-4. Service jig list

Ref. No.	Name	Sony part code	Jig inscription	Use and others
J-1	Cleaning liquid	9-919-573-01	—	
J-2	Wiping cloth	7-741-900-53	—	
J-3	Very thin cotton swab (made by Japan cotton swab (P752D))	J-2501-023-A	—	
J-4	Small dental mirror (small elliptical mirror)	J-6080-840-A	GD-2038	For tape path adjustment
J-5	Tracking tape (XH2-1ST) Tracking tape (XH2-1SE)	8-967-997-02 ▨ 8-967-997-03	—	For tape path (top) For tape path (end)
J-6	DV torque cassette	J-6082-374-A	—	
J-7	Reel reference plate	J-6082-380-A	—	For reel height check
▨ J-8	Dummy drum with TG-3/6 gauge (including J-11)	J-6082-381-A	—	For tape guide adjustment
▨ J-9	Dummy cassette with TG-2 gauge (including J-10)	J-6082-379-A	—	For tape guide adjustment
☛ ~~J-10~~	~~TG2 preset plate (L mechanism)~~	~~J-6082-382-A~~		~~For tape guide adjustment~~
☛ ~~J-11~~	~~TG-3/6 preset plate (L mechanism)~~	~~J-6082-383-A~~	~~—~~	~~For tape guide adjustment~~
J-12	Torque driver (CCW)	J-9049-330-A	—	

(P6-62) • Replace the page 6-62 of your manual with this page.

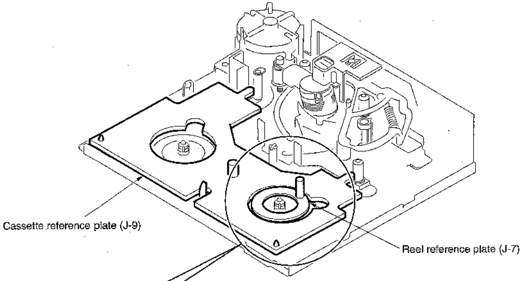
4-3. ADJUSTMENT AND CHECK METHOD

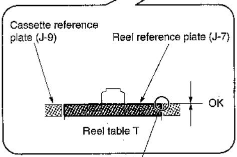
4-3-1. REEL TABLE T HEIGHT CHECK

1. Preparation before check

FL block : Remove
Position : (LOADING)
Jig used : Reel reference plate (J-7) and cassette reference plate (J-9)

2. Checking

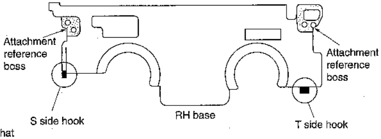

Cassette reference plate (J-9)
Reel reference plate (J-7)


Cassette reference plate (J-9)
Reel reference plate (J-7)
OK
Reel table T

Make sure that the difference in level between the upper surface of the reel reference plate (J-7) and that of the cassette reference plate (J-9) is within ± 0.15 as shown.

Note: When the difference in level is not within ± 0.15.

Check that there is no foreign matter around the attachment reference boss when attaching the RH base and that the S side and T side hooks are correctly attached.


Attachment reference boss
Attachment reference boss
S side hook
RH base
T side hook

Sony Corporation
Personal A&V Products Company

97A1612-1
Published by Quality Engineering Dept.
(Osaki East)

DSR-200/200P
RMT-806/807

SONY

SERVICE MANUAL

US Model
Canadian Model
DSR-200
AEP Model
DSR-200P

CORRECTION-2

Correct your service manual as shown below.
(97-012)

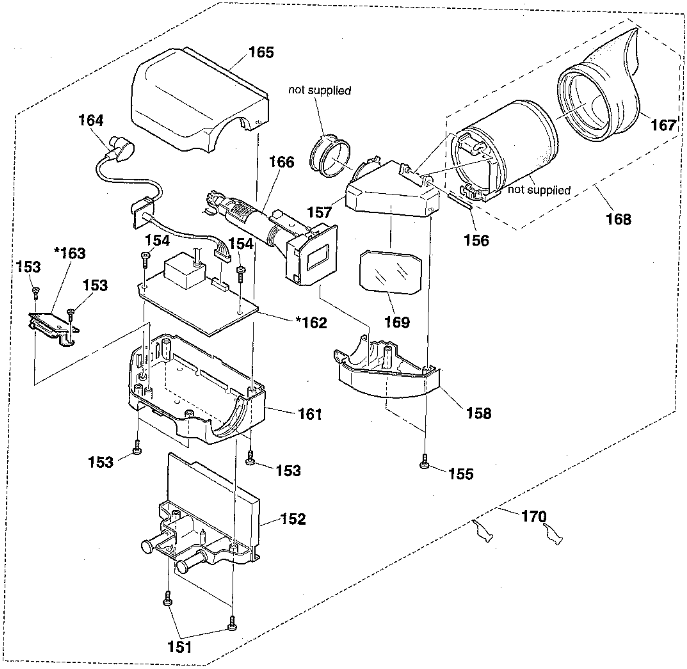
Correction and Addition of Part Number
Correction of Schematic Diagrams

☞ : Corrected, — : Corrected.

Page	INCORRECT	CORRECT
5-12	M901 A-7044-013-A DRUM ASSY (DEH-09A-R)	M901 A-7044-011-A DRUM ASSY (DEH-08A-R)
6-42	J-5 Tracking tape (XH2-1ST) 8-967-997-02 Tracking tape (XH2-1SE) 8-967-997-03	J-5 Tracking tape (XH2-1AST) 8-967-999-02 Tracking tape (XH2-1ASE) 8-967-999-06
6-73	11) Alignment tape For NTSC model • For tracking top adjustment (XH2-1ST) Part code : 8-967-977-02 • For tracking end adjustment (XH2-1SE) Part code : 8-967-977-03 • For switching and overlap adjustment (XH2-3S) Part code : 8-967-977-12 • For audio operation check (XH5-3S) Part code : 8-967-977-52 • For system operation check (XH5-5S) Part code : 8-967-977-62 • BIST reference tape (XH5-6S) Part Code : 8-967-977-72 For PAL model • For tracking top adjustment (XH2-1ST) Part code : 8-967-977-02 • For tracking end adjustment (XH2-1SE) Part code : 8-967-977-03 • For switching and overlap adjustment (XH2-3S) Part code : 8-967-977-12 • For audio operation check (XH5-3PS) Part code : 8-967-977-56 • For system operation check (XH5-5PS) Part code : 8-967-977-67 • BIST reference tape (XH5-6PS) Part Code : 8-967-977-77	11) Alignment tape For NTSC model • For tracking top adjustment (XH2-1AST) Part code : 8-967-999-02 • For tracking end adjustment (XH2-1ASE) Part code : 8-967-999-06 • For switching and overlap adjustment (XH2-3S) Part code : 8-967-997-12 • For audio operation check (XH5-3S) Part code : 8-967-997-52 • For system operation check (XH5-5S) Part code : 8-967-997-62 • BIST reference tape (XH5-6S) Part Code : 8-967-997-72 For PAL model • For tracking top adjustment (XH2-1AST) Part code : 8-967-999-02 • For tracking end adjustment (XH2-1ASE) Part code : 8-967-999-06 • For switching and overlap adjustment (XH2-3S) Part code : 8-967-997-12 • For audio operation check (XH5-3PS) Part code : 8-967-997-56 • For system operation check (XH5-5PS) Part code : 8-967-997-67 • BIST reference tape (XH5-6PS) Part Code : 8-967-997-77

< Page 5-4 >

5-1-4. EVF SECTION


165
not supplied
164
166
167
157
not supplied
168
156
154
154
*163
153
153
*162
169
161
158
153
153
155
152
170
151

: Addition

* 170	1-251-464-52	EVF ASSY (1 INCH WHT/BLK)(DSR-200)
* 170	1-251-464-32	EVF ASSY (1 INCH WHT/BLK)(DSR-200P)

▨ : Corrected

<table>
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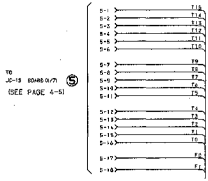
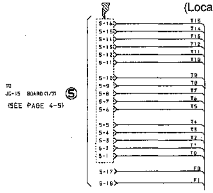
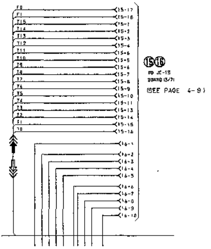
<tr><td rowspan="2">4-7</td><td>

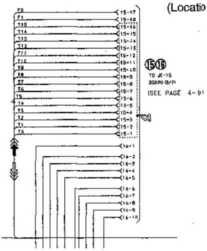
TO JC-15 BOARD (1/7) ⑤
(SEE PAGE 4-5)

</td><td>(Location B-6)

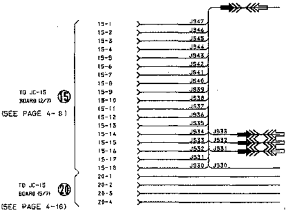
TO JC-15 BOARD (1/7) ⑤
(SEE PAGE 4-5)

</td></tr>
<tr><td>

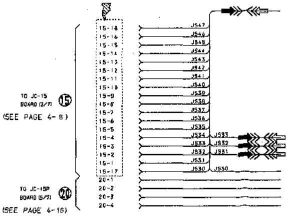
⑮⑯ TO JC-15 BOARD (3/7)
(SEE PAGE 4-9)

</td><td>(Location B-10)

⑮⑯ TO JC-15 BOARD (3/7)
(SEE PAGE 4-9)

</td></tr>
<tr><td>4-9</td><td>

TO JC-15 BOARD (2/7) ⑮
(SEE PAGE 4-8)
TO JC-15 BOARD (5/7) ⑳
(SEE PAGE 4-16)

</td><td>(Location F-2)

TO JC-15 BOARD (2/7) ⑮
(SEE PAGE 4-8)
TO JC-15P BOARD (5/7) ⑳
(SEE PAGE 4-16)

</td></tr>
</table>

▨ : Corrected, ☛ : Deleted.

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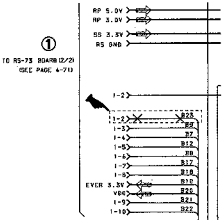
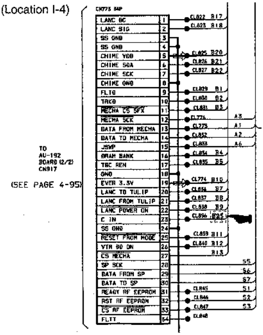


RP 5.0V
RP 3.0V
SS 3.3V
RS GND
①
TO RS-73 BOARD (2/2)
(SEE PAGE 4-71)
1-2
1-2
B23
1-3
B9
1-4
B7
1-5
B12
1-6
B8
1-7
B17
1-8
B18
EVER 3.3V
B10
VDD
B20
1-9
B21
1-10
B22

</td><td>(Location I-4)


CN773 34P
TO AU-192 BOARD (2/2) CN917
(SEE PAGE 4-95)
LANC DC 1
LANC SIG 2
SS GND 3
SS GND 4
CHIME VDD 5
CHIME SDA 6
CHIME SCK 7
CHIME GND 8
FLTG 9
TAKB 10
MECHA CS SFX 11
MECHA SCK 12
DATA FROM MECHA 13
DATA TO MECHA 14
JSWP 15
DRAM BANK 16
TBC REN 17
GND 18
EVER 3.3V 19
LANC TO TULIP 20
LANC FROM TULIP 21
LANC POWER ON 22
C IN 23
SS GND 24
RESET FROM MODE 25
VTR DD ON 26
CS MECHA 27
SP SCK 28
DATA FROM SP 29
DATA TO SP 30
READY RF EEPROM 31
RST RF EEPROM 32
CS RF EEPROM 33
FLTT 34
CL822 B17
CL823 B18
CL825 B20
CL826 B21
CL827 B22
CL829 B1
CL830 B2
CL831 B3
CL776 A3
CL775 A1
CL852 A2
CL853 A6
CL854 B4
CL855 B5
CL774 B10
CL836 B7
CL837 B8
CL838 B9
CL896 B23
CL859 B11
CL840 B12
B13
S5
S6
S7
CL845 S1
CL846 S2
CL847 S3
CL848

</td></tr>
<tr><td>6-90</td><td>
<table>
<tr><td>Mode</td><td>VTR stop</td></tr>
<tr><td>Measurement Point</td><td>For odd channel adjustment :
CH-1 : CN771 pin ⑤ (CL816)
CH-2 : CN771 pin ⑥ (CL815)
For even channel adjustment :
CH-1 : CN771 pin ⑧ (CL813)
CH-2 : CN771 pin ⑨ (CL812)</td></tr>
<tr><td>Measuring Instrument</td><td>Oscilloscope
ADD mode
CH-2 INV mode</td></tr>
<tr><td>Adjustment Page</td><td>C</td></tr>
<tr><td>Adjustment Address</td><td>3E, 3F</td></tr>
<tr><td>Specification Value</td><td>A = 3.1 ± 0.1Vp-p</td></tr>
</table>
</td><td>
<table>
<tr><td>Mode</td><td>CAMERA REC ▨</td></tr>
<tr><td>Measurement Point</td><td>For odd channel adjustment :
CH-1 : CN771 pin ⑤ (CL816)
CH-2 : CN771 pin ⑥ (CL815)
For even channel adjustment :
CH-1 : CN771 pin ⑧ (CL813)
CH-2 : CN771 pin ⑨ (CL812)</td></tr>
<tr><td>Measuring Instrument</td><td>Oscilloscope
ADD mode
CH-2 INV mode</td></tr>
<tr><td>Adjustment Page</td><td>C</td></tr>
<tr><td>Adjustment Address</td><td>3E, 3F</td></tr>
<tr><td>Specification Value</td><td>A = 4.0 ± 0.1Vp-p ▨</td></tr>
</table>
</td></tr>
</table>

Sony Corporation
Personal A&V Products Company

Published by Quality Engineering Dept.
(Osaki East)

DSR-200/200P

RMT-806/807

SONY

SERVICE MANUAL

US Model
Canadian Model
DSR-200
AEP Model
DSR-200P

CORRECTION-3

Correct your service manual as shown below.
(98-039)

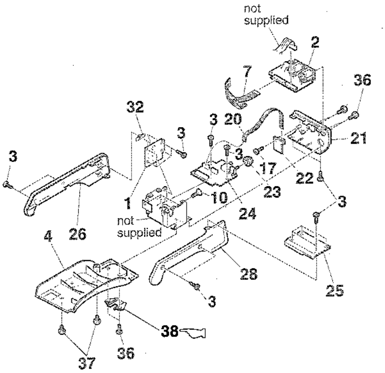
- Addition of Stopper
- Correction of Adjustment Contents

<Page 5-1>

SECTION 5. REPAIR PARTS LIST

5-1-1. OVERALL-1 SECTION

☞ : Added portion


not supplied
2
7
36
32
3
3
20
21
3
3
17
22
3
1
10
23
24
3
not supplied
4
26
28
25
3
38
36
37

Ref. No.	Part No.	Description	Remarks
* 38	3-971-072-01	STOPPER ☜	

<Page 6-95>

3-5. VIDEO SYSTEM ADJUSTMENTS

6. AEQ adjustment (RS-73 board)

✍ : Changed portion

Adjustment procedure:

Order	Page	Address	Data	Procedure
1	1	00	01	Set the data. (Preparation)
2	C	5C	EC	After setting the data, press the PAUSE button.
3				Record any Subject for about one minute from the tape top.
4	C	4B	8E	After setting the data, press the PAUSE button.
5	C	5A	00	After setting the data, press the PAUSE button.
6	C	40	C0	After setting the data, press the PAUSE button.
7	C	41	C0	After setting the data, press the PAUSE button.
8	C	42	90	After setting the data, press the PAUSE button.
9	C	43	90	After setting the data, press the PAUSE button.
10				Rewind the tape and play it back from the tape top.
11	3	01	07	After RF envelope waveform is stabilized, set the data: 07 to this address and press the PAUSE button.
12	3	02		When about 20 to 30 seconds have elapsed after the PAUSE button is pressed, confirm that the data of address : 02 on page : 3 changes from "07" to "00".

✍

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DSR-200/200P
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SONY

SERVICE MANUAL

US Model
Canadian Model
DSR-200
AEP Model
DSR-200P

SUPPLEMENT-2

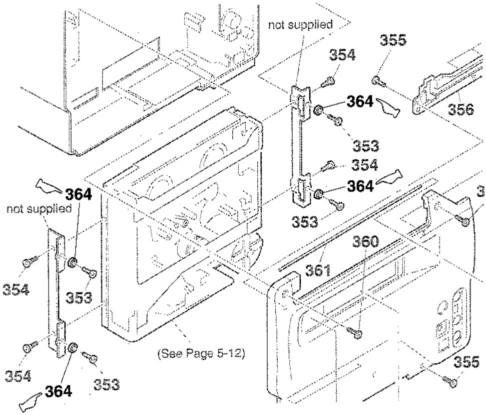
File this supplement-2 with the Service Manual.
(98-029)

Subject :
Addition of the vibration proof rubber as the measure for vibration.

SECTION 5 REPAIR PARTS LIST

5-1-8. CABINET (L) SECTION (Page 5-8)

☞ : Added portions


not supplied
355
354
364
356
353
354
364
360
364
not supplied
353
360
361
354
353
354
353
364
355
(See Page 5-12)

☞	364	3-974-011-01	RUBBER, VIBRATION PROOF

99A1611-1

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9-973-918-82

DSR-200/200P
RMT-806/807

SONY

SERVICE MANUAL

US Model
Canadian Model
DSR-200
AEP Model
DSR-200P

SUPPLEMENT-3

File this supplement with the Service Manual.
(99-001)

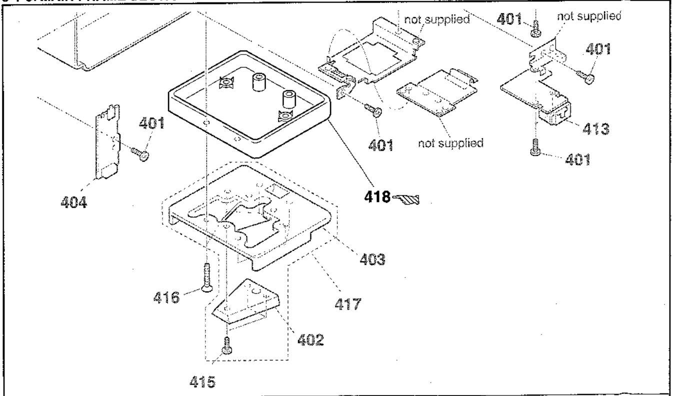
- Tripod base is changed from "not supplied" to a repair part for service.

<Page 5-9>

SECTION 5. REPAIR PARTS LIST

5-1-9. MAIN FRAME SECTION

☞ : Added portion, ▨ : Changed portion.


not supplied
401
not supplied
401
401
404
418
401
not supplied
413
401
403
416
417
402
415

OLD				NEW			
Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
	————	————		418	3-974-274-01	BASE (BI), TRIPOD ☞	

99E1611-1

Sony Corporation
Personal VIDEO Products Company

9-973-918-83

Published by Safety & Service Engineering Dept.

DSR-200/200P
RMT-806/807

SONY.

SERVICE MANUAL

US Model
Canadian Model
DSR-200
AEP Model
DSR-200P

SUPPLEMENT-4

File this supplement with the Service Manual.
(99-011)

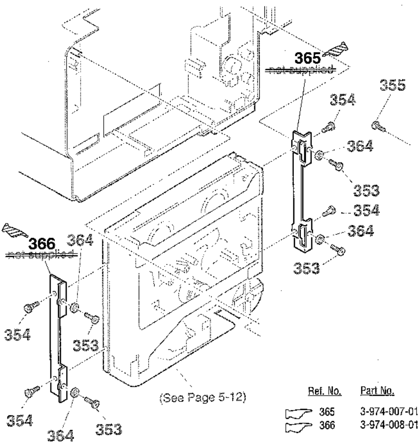
- MD bracket is changed from "not supplied" to a repair part for service.
- Changed of adjustment data.
- Correction of pad cover information on service manual.

<Page 5-8>

SECTION 5. REPAIR PARTS LIST

5-1-8. CABINET (L) SECTION

☞ : Added portion, ▨ : Changed portion.


365
~~not supplied~~
355
354
364
353
354
364
353
366
~~not supplied~~
364
354
353
354
364
353
(See Page 5-12)

Ref. No.	Part No.	Description	Remarks
☞ 365	3-974-007-01	BRACKET-(F), MD	
☞ 366	3-974-008-01	BRACKET-(R), MD	

☞ : Added portion, ▨☞ : Changed portion.

<table>
<tr><th>Page</th><th>Old</th><th>New</th></tr>
<tr>
<td>6-66</td>
<td>
SECTION 6. ADJUSTMENTS
4-3-6. FWD/RVS BACK TENSION ADJUSTMENT
Specified value:
<table>
<tr><td>FWD
back tension</td><td>1.226 — 1.520mN • m (12.5 — 15.5g • cm)</td></tr>
<tr><td>RVS
back tension</td><td>0.706 — 1.226mN • m (7.5 — 12.5g • cm)</td></tr>
</table>
</td>
<td>
4-3-6. FWD/RVS BACK TENSION ADJUSTMENT
Specified value:
<table>
<tr><td>FWD
back tension</td><td>1.274 — 1.520mN • m
(13.0 — 15.5g • cm)</td><td>▨☞</td></tr>
<tr><td>RVS
back tension</td><td>0.882 — 1.176mN • m
(9.0 — 12.0g • cm)</td><td>▨☞</td></tr>
</table>
Reference value:
<table>
<tr><td>FWD torque</td><td>1.569 — 2.108mN • m
(16.0 — 21.5g • cm)</td><td>☞</td></tr>
<tr><td>RVS torque</td><td>2.402 — 4.069mN • m
(24.5 — 41.5g • cm)</td><td></td></tr>
</table>
</td>
</tr>
</table>

[CORRECTION]

Correct your service manual as shown below.

▨☞ : Changed portion.

Page	INCORRECT				CORRECT			
	Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
	5-1-1. OVERALL-1 SECTION							
5-1	26	3-974-263-01	COVER (L), PAD (RIGHT)		28 ▨☞	3-974-263-01	COVER (L), PAD (RIGHT)	
	28	3-974-264-01	COVER (L), PAD (LEFT)		26 ▨☞	3-974-264-01	COVER (L), PAD (LEFT)	

SP00853

DSR-200A/200AP

RMT-806/807

SERVICE MANUAL

US Model
Canadian Model
DSR-200A
AEP Model
E Model
DSR-200AP

Differences Manual

DVCAM™
L MECHANISM

- DSR-200A/200AP is based on DSR-200/200P
- This Service Manual daceribed only the differences from DSR-200/200P (US/Canadian/AEP Model) Service Manual (9-973-918-11).
  DSR-200A (NTSC) SP03162
  DSR-200AP (PAL)

- Main Difference
  - Changed minimum illumination (4 lux → 3 lux)
  - 16:9 mode is added.
  - Indications inside EVF are added.
    (DIGITAL MODE SWITCH → VF DISPLAY (ON/OFF))

- **Table for Differences of Completed Board**

	DSR-200/200P	DSR-200A/200AP
JC-15 Board	A-7066-915-A (DSR-200)	A-7067-146-A (DSR-200A)
	A-7066-934-A (DSP-200P)	A-7067-154-A (DSR-200AP)
JK-149 Board	A-7072-949-A (DSR-200)	A-7072-949-A (DSR-200A)
	A-7073-006-A (DSR-200P)	A-7073-595-A (DSR-200AP)
LH-10 Board	A-7072-955-A	A-7072-955-A (DSR-200A/200AP:E)
		A-7073-597-A (DSR-200AP:AEP)
XL-1 Board	A-7072-954-A	A-7072-954-A (DSR-200A/200AP:E)
		A-7073-596-A (DSR-200AP:AEP)
VK-41 Board	A-7072-952-A (DSR-200)	A-7072-952-A (DSR-200A)
	A-7072-900-A (DSR-200P)	A-7072-900-A (DSR-200AP:AEP)
		(DSR-200AP:E) note 1

note 1: Refer to page 6,7 for *1

DIGITAL VIDEO CAMERA RECORDER

MICROFILM

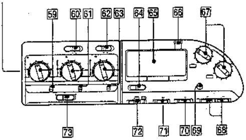
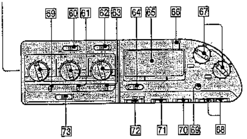
SONY®

☞ : Indication is Added
▨ : Indication is Changed

• Table for Differences of Specifications

	DSR-200/200P	DSR-200A/200AP
Color temperature	Auto/Indoors (3,200k)/Outdoors (5,800k)	Auto/Indoors (3,200k)/Outdoors (5,800k)/One-push ☞
Minimum illumination	4 lux (F 1.6)	3 lux (F 1.6) ▨
illumination range	4 lux to 100,000 lux	3 lux to 100,000 lux ▨
Shutter speed control	1/4 to 1/10,000	1/4 to 1/10,000 (DSR-200A) 1/3 to 1/10,000 (DSR-200AP) ▨
Input and output connector	DSR-200: DV IN/OUT	DV IN/OUT (DSR-200A/200AP:E) ☞
	DSR-200P: DV OUT	DV OUT (DSR-200AP:AEP) ▨

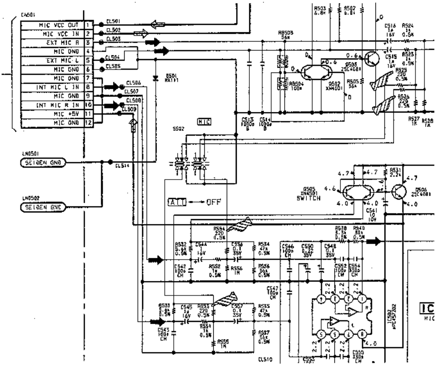
SECTION 1. GENERAL

Page	DSR-200/200P	DSR-200A/200AP
1-1	 59 60 61 62 63 64 65 66 67 73 72 71 70 69 68 59 **SHUTTER SPEED dial and AUTO/MANUAL switch** (p. 54) 60 **DIGITAL MODE switch** (p. 30, 44) Set to select the OVERLAP or D ZOOM mode. 61 **GAIN dial and AGC/MANUAL switch** (p. 57) 65 **Display window** (p. 16) 66 **PEAK indicators (L and R)** (p. 65) 67 **REC LEVEL dials** (p 65) 68 **REC LEVEL switches** (p. 65) 69 **TC RESET button** Set time code to 0:00:00:00 when you want to reset the time code while shooting.	 59 60 61 62 63 64 65 66 67 73 72 71 70 69 68 59 **SHUTTER SPEED dial and AUTO/MANUAL switch** (p. 55) 60 **VF DISPLAY switch** (p. 30, 44) ▨ Set to display (ON) or erase (OFF) the indicators in the viewfinder. 61 **GAIN dial and AGC/MANUAL switch** (p. 58) 65 **Display window** (p. 16) 66 **PEAK indicators (L and R)** (p. 66) 67 **REC LEVEL** dials (p. 66) 68 **REC LEVEL switches** (p. 66) 69 **TC RESET button** Set time code to 0:00:00:00 when you want to reset the time code while shooting.

SECTION 4. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

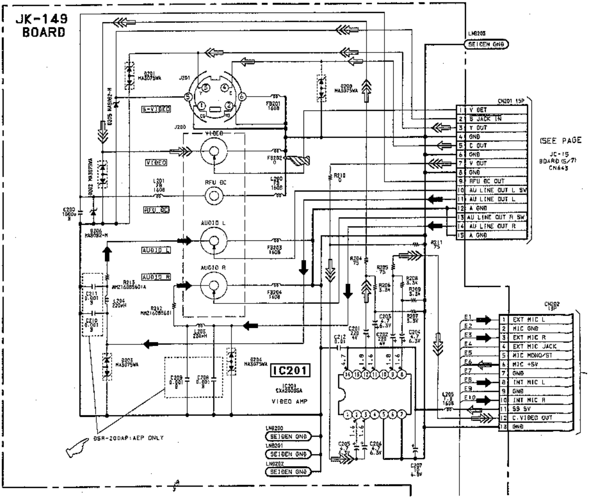
4-2. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

Page 4-87 (MA-280 BOARD)

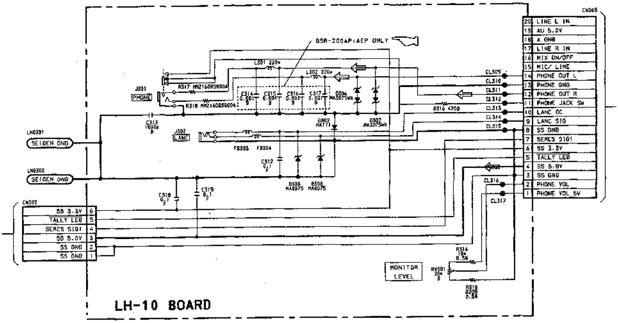


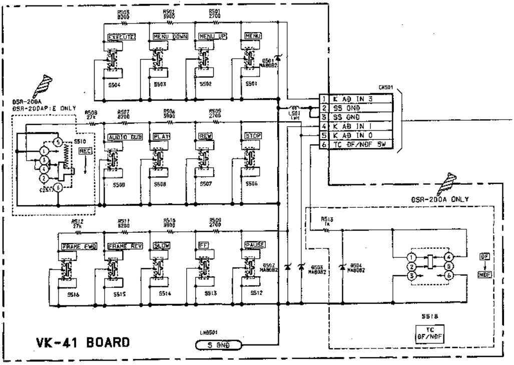
CN501
1 MIC VCC OUT
2 MIC VCC IN
3 EXT MIC R
4 MIC GND
5 EXT MIC L
6 MIC GND
7 MIC GND
8 INT MIC L IN
9 MIC GND
10 INT MIC R IN
11 MIC +5V
12 MIC GND
CL501
CL502
CL503
CL504
CL505
CL506
CL507
CL508
CL509
CL514
LN0501
SEIDEN GND
LN0502
SEIDEN GND
D501 MA111
S502
MIC
ATT ⟶ OFF
R503 6.8k
R502 6.8k
RB503 56k
RB504 100k
Q505 2SC4081
Q502 XN4501
R505 56k
C516 1μ 16V
R524 1k 0.5%
C515 1μ 16V
R523 1k 0.5%
R525 220 0.5%
R526 220 0.5%
R527 1k
R528 1k
C513 1000p B
C514 1000p B
Q505 XN4501 SWITCH
Q506 2SC4081
R531 2.2k
C541 10 10V
R538 3.3k 0.5%
R540 30k 0.5%
R554 220 0.5%
R532 5.6k 0.5%
C544 1 16V
C556 0.1 35V
R534 47k 0.5%
C546 100p CH
C550 0.22 35V
C548 0.1 35V
C542 100p CH
R552 1k 0.5%
R556 1M
R536 56k 0.5%
C552 100p CH
C554 330p CH
C547 100p CH
R533 5.6k 0.5%
C545 1μ 16V
R553 220 0.5%
C557 0.1 35V
R535 47k 0.5%
C543 100p CH
R551 1k 0.5%
R555 1M
R537 56k 0.5%
IC502 μPC4570Z
C553
C555 330p CH
CL510
IC
MIC

Page 4-88

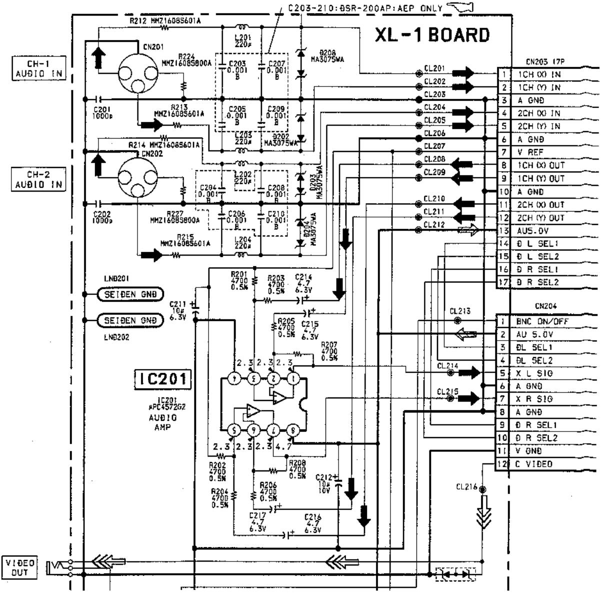


JK-149 BOARD
LN0203
SEIDEN GND
CN201 15P
1 Y DET
2 S JACK IN
3 Y OUT
4 GND
5 C OUT
6 GND
7 V OUT
8 GND
9 RFU DC OUT
10 AU LINE OUT L SW
11 AU LINE OUT L
12 A GND
13 AU LINE OUT R SW
14 AU LINE OUT R
15 A GND
(SEE PAGE
JC-15 BOARD (5/7) CN643
D201 MA3075WA
J201
D200 MA3075WA
D205 MA8082-M
S-VIDEO
FB201 1608
J200
VIDEO
FB202 0
D202 MA3075WA
R210 0
L201 FB 1608
RFU DC
L200 FB 1608
RFU DC
C200 1000p B
D206 MA8082-M
AUDIO L
AUDIO L
FB203 1608
AUDIO R
AUDIO R
R213 MMZ1608S601A
C211 0.001 B
L204 220μH
R212 MMZ1608S601
FB204 1608
C210 0.001 B
L203 220μH
D203 MA3075WA
C209 0.001 B
C208 0.001 B
D204 MA3075WA
IC201
IC201 CXA2009SA
VIDEO AMP
R211 75
R204 75
R205 75
R206 3.3k
R208 3.3k
R209 3.3k
R207 3.3k
C203 4.7 6.3V
C201 220 4V
C202 220 4V
C204 4.7 6.3V
C212 0.01
C205 4.7 6.3V
C206 4.7 6.3V
C207 10 6.3V
L205 F.B 1608
LN0200
SEIDEN GND
LN0201
SEIDEN GND
LN0202
SEIDEN GND
DSR-200AP:AEP ONLY
CN202 13P
E1
E2
E3
E4
E5
E6
E7
E8
E9
E10
1 EXT MIC L
2 MIC GND
3 EXT MIC R
4 EXT MIC JACK
5 MIC MONO/ST
6 MIC +5V
7 GND
8 INT MIC L
9 GND
10 INT MIC R
11 S9 5V
12 C.VIDEO OUT
13 GND


DSR-200AP:AEP ONLY
L301 220μ
L302 220μ
J301
PHONE
R317 MMZ1608S800A
R318 MMZ1608S800A
C314 0.001 B
C315 0.001 B
C316 0.001 B
C317 0.001 B
D306 MA3075WA
D307 MA3075WA
D302 MA111
C313 1000p B
J302
LANC
FB303
FB304
C312 0.1 F
D303 MA8075
D308 MA8075
C318 0.1 F
C319 0.1 F
LN0301
SEIDEN GND
LN0302
SEIDEN GND
CN302
6 SS 3.3V
5 TALLY LED
4 SERCS SIG1
3 SS 5.0V
2 SS GND
1 SS GND
R316 4700
CL309
CL310
CL311
CL312
CL313
CL314
CL315
CL316
CL317
CN305
20 LINE L IN
19 AU 5.0V
18 A GND
17 LINE R IN
16 MIX ON/OFF
15 MIC/ LINE
14 PHONE OUT L
13 PHONE GND
12 PHONE OUT R
11 PHONE JACK SW
10 LANC DC
9 LANC SIG
8 SS GND
7 SERCS SIG1
6 SS 3.3V
5 TALLY LED
4 SS 5.0V
3 SS GND
2 PHONE VOL
1 PHONE VOL 5V
R314 10k 0.5W
MONITOR LEVEL
RV301 20k B
R315 6200 0.5W
LH-10 BOARD

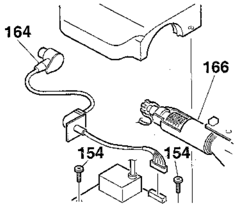
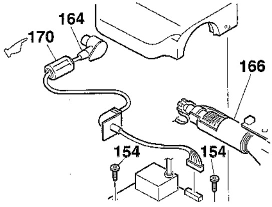

R503 8200
R502 3900
R501 2700
EXECUTE
MENU DOWN
MENU UP
MENU
D501 MA8082
S504
S503
S502
S501
DSR-200A
DSR-200AP:E ONLY
R508 27k
R507 8200
R506 3900
R505 2700
S510
REC
AUDIO DUB
PLAY
REW
STOP
S509
S508
S507
S506
L501 1mH
CN501
1 K AD IN 3
2 SS GND
3 SS GND
4 K AD IN 1
5 K AD IN 0
6 TC DF/NDF SW
DSR-200A ONLY
R512 27k
R511 8200
R510 3900
R509 2700
FRAME FWD
FRAME REV
SLOW
FF
PAUSE
D502 MA8082
D503 MA8082
R513 1k
D504 MA8082
DF
NDF
S516
S515
S514
S513
S512
S518
TC DF/NDF
LN0501
S GND
VK-41 BOARD

16


C203-210:DSR-200AP:AEP ONLY
XL-1 BOARD
CH-1 AUDIO IN
CH-2 AUDIO IN
VIDEO OUT
R212 MMZ1608S601A
L201 220µ
CN201
R224 MMZ1608S800A
C203 0.001 B
C207 0.001 B
D208 MA3075WA
C201 1000p
R213 MMZ1608S601A
C205 0.001 B
C209 0.001 B
L203 220µ
D202 MA3075WA
R214 MMZ1608S601A
CN202
L202 220µ
C204 0.001 B
C208 0.001 B
D203 MA3075WA
C202 1000p
R227 MMZ1608S800A
C206 0.001 B
C210 0.001 B
D204 MA3075WA
R215 MMZ1608S601A
L204 220µ
LND201
SEIDEN GND
SEIDEN GND
LND202
IC201
IC201 µPC4572G2 AUDIO AMP
R201 4700 0.5%
R203 4700 0.5%
C214 4.7 6.3V
C211 10µ 6.3V
R205 4700 0.5%
C215 4.7 6.3V
R207 4700 0.5%
2.3 2.3 2.3
2.3 2.3 2.3 4.7
R202 4700 0.5%
R208 4700 0.5%
C212 10µ 10V
R204 4700 0.5%
R206 4700 0.5%
C217 4.7 6.3V
C216 4.7 6.3V
CL201
CL202
CL203
CL204
CL205
CL206
CL207
CL208
CL209
CL210
CL211
CL212
CN203 17P
1 1CH (X) IN
2 1CH (Y) IN
3 A GND
4 2CH (X) IN
5 2CH (Y) IN
6 A GND
7 V REF
8 1CH (X) OUT
9 1CH (Y) OUT
10 A GND
11 2CH (X) OUT
12 2CH (Y) OUT
13 AUS.0V
14 D L SEL1
15 D L SEL2
16 D R SEL1
17 D R SEL2
CN204
CL213
1 BNC ON/OFF
2 AU 5.0V
3 DL SEL1
4 DL SEL2
CL214
5 X L SIG
6 A GND
CL215
7 X R SIG
8 A GND
9 D R SEL1
10 D R SEL2
11 V GND
12 C VIDEO
CL216

SECTION 5. REPAIR PARTS LIST

5-1. EXPLODED VIEWS

Page	DSR-200/200P	DSR-200A/200AP
5-1	2 A-7072-954-A XL-1 BOARD, COMPLETE 21 X-3946-915-1 COVER ASSY, PAD TERMINAL 24 A-7072-955-A LH-10 BOARD COMPLETE 34 8-917-569-90 REMOTE COMMANDER RMT-806 SET (DSR-200) 34 8-917-570-90 REMOTE COMMANDER RMT-807 SET (DSR-200P)	2 A-7072-954-A XL-1 BOARD, COMPLETE (DSR-200A/200AP: E) 2 A-7073-596-A XL-1 BOARD, COMPLETE (DSR-200AP: AEP) 21 X-3946-915-1 COVER ASSY, PAD TERMINAL (DSR-200A/200AP: E 21 X-3947-201-2 COVER ASSY, PAD TERMINAL (DSR-200AP: AEP 24 A-7072-955-A LH-10 BOARD, COMPLETE (DSR-200A/200AP: E) 24 A-7073-597-A LH-10 BOARD, COMPLETE (DSR-200AP: AEP) 34 8-917-569-90 REMOTE COMMANDER RMT-806 SET (DSR-200A/200AP: E 34 8-917-570-90 REMOTE COMMANDER RMT-807 SET (DSR-200AP: AEP
5-3	102 A-7072-898-A AM-38 BOARD, COMPLETE (DSR-200) 102 A-7072-973-A AM-38 BOARD, COMPLETE (DSR-200P) 107 A-7072-899-A SW-286 BOARD, COMPLETE (DSR-200) 107 A-7072-978-A SW-286 BOARD, COMPLETE (DSR-200P) 109 A-7072-897-A ED-44 BOARD, COMPLETE (DSR-200) 109 A-7072-972-A ED-44 BOARD, COMPLETE (DSR-200P) 110 3-973-038-21 CABINET (R) 122 X-3946-918-1 PANEL ASSY, CONTROL (DSR-200) 122 X-3947-098-1 PANEL ASSY, CONTROL (DSR-200P)	102 A-7072-973-A AM-38 BOARD, COMPLETE 107 A-7072-978-A SW-286 BOARD, COMPLETE 109 A-7072-972-A ED-44 BOARD, COMPLETE 110 3-973-038-21 CABINET (R) (DSR-200A/200AP: E) 110 3-973-038-41 CABINET (R) (DSR-200AP: AEP) 122 X-3948-641-1 PANEL ASSY, CONTROL (DSR-200A) 122 X-3948-643-1 PANEL ASSY, CONTROL (DSR-200AP)
5-4		 170 1-543-793-11 CORE, FERRITE
5-5	205 A-7072-900-A VK-41P BOARD, COMPLETE (DSR-200P) 205 A-7072-952-A VK-41P BOARD, COMPLETE (DSR-200) 210 A-7066-915-A JC-15 BOARD, COMPLETE (DSR-200) 210 A-7066-934-A JC-15 BOARD, COMPLETE (DSR-200P) 217 3-973-021-21 FRAME, VK 220 X-3946-917-1 VK ASSY	205 A-7072-900-A VK-41P BOARD, COMPLETE (DSR-200AP: AEP) 205 VK-41P BOARD, COMPLETE (DSR-200AP: E) *1 205 A-7072-952-A VK-41P BOARD, COMPLETE (DSR-200A) 210 A-7067-146-A JC-15 BOARD, COMPLETE (DSR-200A) 210 A-7067-154-A JC-15 BOARD, COMPLETE (DSR-200AP) 217 3-973-021-21 FRAME, VK (DSR-200A) 217 3-973-021-31 FRAME, VK (DSR-200AP: AEP) 217 3-973-021-41 FRAME, VK (DSR-200AP: E) 220 X-3946-917-1 VK ASSY (DSR-200A) 220 X-3947-099-1 VK ASSY (DSR-200AP: AEP) 220 X-3948-640-1 VK ASSY (DSR-200AP: E)
5-7	323 A-7072-895-A HR-11 BOARD, COMPLETE (DSR-200) 323 A-7072-976-A HR-11 BOARD, COMPLETE (DSR-200P)	323 A-7072-976-A HR-11 BOARD, COMPLETE
5-8	352 3-973-025-21 CABINET (L)	352 3-973-025-61 CABINET (L) (DSR-200A) 352 3-973-025-71 CABINET (L) (DSR-200AP: AEP) 352 3-973-025-81 CABINET (L) (DSR-200AP: E)
5-9	407 A-7072-949-A JK-149 BOARD, COMPLETE (DSR-200) 407 A-7073-006-A JK-149 BOARD, COMPLETE (DSR-200P)	407 A-7072-949-A JK-149 BOARD, COMPLETE (DSR-200A) 407 A-7073-595-A JK-149 BOARD, COMPLETE (DSR-200AP)
5-10	451 A-7072-886-A SE-56 BOARD, COMPLETE (DSR-200) 451 A-7072-977-A SE-56 BOARD, COMPLETE (DSR-200P)	451 A-7072-977-A SE-56 BOARD, COMPLETE

*1 : When servicing the VK-41 board of the DSR-200AP: E model, mount the slide switch S510 (1-572-498-11) to A-7072-900A.

5-2. ELECTRICAL PARTS LIST

Page	DSR-200/200P			DSR-200A/200AP		
5-15		A-7072-898-A	AM-38 BOARD, COMPLETE (DSR-200)		A-7072-973-A	AM-38 BOARD, COMPLETE
		A-7072-973-A	AM-38 BOARD, COMPLETE (DSR-200P)			
5-30		A-7072-897-A	ED-44 BOARD, COMPLETE (DSR-200)		A-7072-972-A	ED-44 BOARD, COMPLETE
		A-7072-972-A	ED-44 BOARD, COMPLETE (DSR-200P)			
5-32		A-7066-915-A	JC-15 BOARD, COMPLETE (DSR-200)		A-7067-146-A	JC-15D BOARD, COMPLETE (DSR-200A)
		A-7066-934-A	JC-15 BOARD, COMPLETE (DSR-200P)		A-7067-154-A	JC-15D BOARD, COMPLETE (DSR-200AP)
5-33	IC501	8-759-451-01	IC MB89098RPFV-G-150-BND	IC501	8-759-536-00	IC MB89098RPFV-G-164-BND
	IC504	8-759-428-95	IC HD6433837TB22X	IC504	8-759-536-01	IC HD6433837TC08X
5-36		A-7072-949-A	JK-149 BOARD, COMPLETE (DSR-200)		A-7072-949-A	JK-149 BOARD, COMPLETE (DSR-200A)
		A-7073-006-A	JK-149 BOARD, COMPLETE (DSR-200P)		A-7073-595-A	JK-149 BOARD, COMPLETE (DSR-200AP)
				C208	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V (DSR-200AP: AEP)
				C209	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V (DSR-200AP: AEP)
				C210	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V (DSR-200AP: AEP)
				C211	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V (DSR-200AP: AEP)
	FB202	1-543-955-11	BEAD, FERRITE (CHIP)	FB202	1-216-864-11	SHORT 0
5-38		A-7072-955-A	LH-10 BOARD, COMPLETE		A-7072-955-A	LH-10 BOARD, COMPLETE (DSR-200A/200AP: E)
					A-7073-597-A	LH-10 BOARD, COMPLETE (DSR-200AP: AEP)
				C314	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V (DSR-200AP: AEP)
				C315	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V (DSR-200AP: AEP)
				C316	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V (DSR-200AP: AEP)
				C317	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V (DSR-200AP: AEP)
5-39		A-7072-889-A	MA-280 BOARD, COMPLETE		A-7072-889-A	MA-280 BOARD, COMPLETE
	R525	1-218-825-11	METAL GLAZE 120 0.50% 1/16W	R525	1-218-831-11	METAL GLAZE 220 0.50% 1/16W
	R526	1-218-825-11	METAL GLAZE 120 0.50% 1/16W	R526	1-218-831-11	METAL GLAZE 220 0.50% 1/16W
5-40	R553	1-218-825-11	METAL GLAZE 120 0.50% 1/16W	R553	1-218-831-11	METAL GLAZE 220 0.50% 1/16W
	R554	1-218-825-11	METAL GLAZE 120 0.50% 1/16W	R554	1-218-831-11	METAL GLAZE 220 0.50% 1/16W
5-46		A-7072-886-A	SE-56 BOARD, COMPLETE (DSR-200)		A-7072-977-A	SE-56 BOARD, COMPLETE
		A-7072-977-A	SE-56 BOARD, COMPLETE (DSR-200P)			
		A-7072-899-A	SW-286 BOARD, COMPLETE (DSR-200)		A-7072-978-A	SW-286 BOARD, COMPLETE
		A-7072-978-A	SW-286 BOARD, COMPLETE (DSR-200P)			
5-47		A-7072-900-A	VK-41P BOARD, COMPLETE (DSR-200P)		A-7072-900-A	VK-41P BOARD, COMPLETE (DSR-200AP: AEP)
						VK-41P BOARD, COMPLETE (DSR-200AP: E) *1
		A-7072-952-A	VK-41P BOARD, COMPLETE (DSR-200)		A-7072-952-A	VK-41P BOARD, COMPLETE (DSR-200A)
				S510	1-572-498-11	SWITCH, SLIDE (REC) (DSR-200A/200AP: E)
		A-7072-954-A	XL-1 BOARD, COMPLETE		A-7072-954-A	XL-1 BOARD, COMPLETE (DSR-200A/200AP: E)
					A-7073-596-A	XL-1 BOARD, COMPLETE (DSR-200AP: AEP)
				C203	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V (DSR-200AP: AEP)
				C204	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V (DSR-200AP: AEP)
				C205	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V (DSR-200AP: AEP)
				C206	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V (DSR-200AP: AEP)
				C207	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V (DSR-200AP: AEP)
				C208	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V (DSR-200AP: AEP)
				C209	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V (DSR-200AP: AEP)
				C210	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V (DSR-200AP: AEP)

*1 : When servicing the VK-41 board of the DSR-200AP: E model, mount the slide switch S510 (1-572-498-11) to A-7072-900A.

Page	DSR-200/200P	DSR-200A/200AP
5-48	ACCESSORIES & PACKING MATERIALS ******************************** 3-858-185-11 MANUAL, INSTRUCTION (ENGLISH) (DSR-200P) 3-858-185-21 MANUAL, INSTRUCTION (ENGLISH) (DSR-200) 3-858-185-31 MANUAL, INSTRUCTION (FRENCH) (DSR-200) 3-858-185-41 MANUAL, INSTRUCTION (FRENCH) (DSR-200P) 3-858-185-51 MANUAL, INSTRUCTION (DUTCH) (DSR-200P) ** AC-V615 AC POWER ADAPTOR *** NP-F730 BATTERY PACK	3-862-712-11 MANUAL, INSTRUCTION (ENGLISH) (DSR-200A) 3-862-712-21 MANUAL, INSTRUCTION (FRENCH) (DSR-200A) 3-862-712-31 MANUAL, INSTRUCTION (ENGLISH) (DSR-200AP) 3-862-712-41 MANUAL, INSTRUCTION (FRENCH) (DSR-200AP) 3-862-712-51 MANUAL, INSTRUCTION (GERMANY) (DSR-200AP) 3-862-712-61 MANUAL, INSTRUCTION (ENGLISH) (DSR-200AP E) ** AC-V615 AC POWER ADAPTOR (DSR-200A) AC-V625 AC POWER ADAPTOR (DSR-200AP) *** NP-F750 BATTERY PACK

SECTION 6. ADJUSTMENT

6-1. CAMERA SECTION ADJUSTMENT

1-1-5. Page F Address list (6-9.11)

	DSR-200/200P		DSR-200A/200AP	
Address	Adjustment Data		Adjustment Data	
	Initial Value	Memo Column	Initial Value	Memo Column
1F	22 : NTSC, 00 : PAL	←	22 : NTSC, 00 : PAL	←
20	05 : NTSC, 00 : PAL	←	0F : NTSC, 00 : PAL	←
21	2F	←	2F	←
BC	01	←	01	←
BD	05	←	08	←
BE	FF	←	FF	←

1-2-17. MAX GAIN adjustment (6-26)

	DSR-200/200P	DSR-200A/200AP
Subject	Clear chart (Color bar standard picture frame)	Clear chart (Color bar standard picture frame)
Measurement Point	VIDEO output terminal (Terminated in 75Ω)	VIDEO output terminal (Terminated in 75Ω)
Measuring Instrument	Oscilloscope	Oscilloscope
Adjustment Page	F	F
Adjustment Address	75	75
Specification Value	A =490 ± 20 mV (NTSC model) A =420 ± 20 mV (PAL model)	A =530 ± 20 mV (NTSC model) A =480 ± 20 mV (PAL model)

6-3. VIDEO SECTION ADJUSTMENT

3-3-3. Page D address list (6-84)

	DSR-200/200P		DSR-200A/200AP	
Address	Adjustment Data		Adjustment Data	
	Initial Value	Memo Column	Initial Value	Memo Column
10	00	←	00	←
11	52 : NTSC, C4 : PAL	←	52 : NTSC, C4 : PAL 54 : PAL (E)	←
12	68	←	68	←
13	1C	←	00	←
14	0E : NTSC, 0C : PAL	←	0E : NTSC, 0C : PAL	←

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